PIONEER
The Art of Entertainment

Service Manual

ORDER NO.
ARP2483

STEREO CASSETTE DECK

CT-S710 HEM
CT-S710-G HEM

- **Refer to the service manual ARP2482 for CT–S910.**
- **This manual is applicable to CT–S710/HEM and CT–S710–G/HEM.**

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
PIONEER ELECTRONICS SERVICE INC. P.O. Box 1760, Long Beach, California 90801 U.S.A.
PIONEER ELECTRONICS OF CANADA, INC. 300 Allstate Parkway Markham, Ontario L3R 0P2 Canada
PIONEER ELECTRONIC [EUROPE] N.V. Haven 1087 Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia TEL: [03] 580-9911
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CONTRAST OF MISCELLANEOUS PARTS

NOTES:
- Parts without part number cannot be supplied.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

CT–S710/HEM, CT–S710–G/HEM and CT–S910/HEM have the same construction except for the following:

Mark	Symbol & Description	Part No.			Remarks
		CT–S910/ HEM type	CT–S710/ HEM type	CT–S710–G/ HEM type	
	CONTROL unit	Non supply	Non supply	Non supply	
	BALANCE VR unit	Non supply	Non supply	Non supply	
	FL unit	Non supply	Non supply	Non supply	
	FUNCTION unit	Non supply	Non supply	Non supply	
	BIAS unit	Non supply	Non supply	Non supply	
	HEADPHONE unit	Non supply	Non supply	Non supply	
	VR unit	······	Non supply	Non supply	
	MAIN unit	Non supply	Non supply	Non supply	
⊙	Mechanism unit	RYM1152	RYM1161	RYM1161	
⚠	AC power cord	ADG1036	PDG1003	PDG1003	
⚠	Power transformer	RTT1201	RTT1202	RTT1202	
	VR ring	RAT1011	RAT1011	RAT1010	
	VR knob	······	RAC1707	RAC1708	
	FL lens	RAH2019	RAH2032	RAH2032	
	Function knob	RAC1704	RAC1706	RAC1711	
	Slide SW knob	RAC1562	RAC1562	RAC1540	
	Balance knob	RAC1705	RAC1705	RAC1662	
	Power button	RAC1703	RAC1703	RAC1657	
	Packing case	RHG1356	RHG1357	RHG1358	
	Panel stay	RNT1139	RNT1140	RNT1141	
	Washer	ABE1009	······	······	
	Washer	RBF1019	······	······	
	Cord with mini plug	······	PDE–319	PDE–319	
	VR knob assembly	RXA1472	······	······	
	Bonnet	RXX1505	RXX1516	RXX1506	
	Door assembly	RXX1514	······	······	
	Front panel assembly	RXX1510	RXX1511	RXX1512	

MECHANISM Unit

Mechanism Unit RYM1161 and RYM1152 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		RYM1152	RYM1161	
	Screw	RBA1074	RBA–064	
	Spring	RBH1226	······	
	Belt	REB–501	REB1143	
	Insulator	REB1099	······	
	Rubber cushion	······	REB1125	
	Motor bracket	RNK1497	······	
	Capstan motor assembly	RXM1016	RXX1491	
	Capstan motor	······	RXM1054	
	Head base assembly	RXX1443	RXX1523	

CONTRAST OF MISCELLANEOUS PARTS

NOTES:
- Parts without part number cannot be supplied.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
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CT–S710/HEM, CT–S710–G/HEM and CT–S910/HEM have the same construction except for the following:

Mark	Symbol & Description	Part No.			Remarks
		CT–S910/ HEM type	CT–S710/ HEM type	CT–S710–G/ HEM type	
	CONTROL unit	Non supply	Non supply	Non supply	
	BALANCE VR unit	Non supply	Non supply	Non supply	
	FL unit	Non supply	Non supply	Non supply	
	FUNCTION unit	Non supply	Non supply	Non supply	
	BIAS unit	Non supply	Non supply	Non supply	
	HEADPHONE unit	Non supply	Non supply	Non supply	
	VR unit	······	Non supply	Non supply	
	MAIN unit	Non supply	Non supply	Non supply	
⊙	Mechanism unit	RYM1152	RYM1161	RYM1161	
⚠	AC power cord	ADG1036	PDG1003	PDG1003	
⚠	Power transformer	RTT1201	RTT1202	RTT1202	
	VR ring	RAT1011	RAT1011	RAT1010	
	VR knob	······	RAC1707	RAC1708	
	FL lens	RAH2019	RAH2032	RAH2032	
	Function knob	RAC1704	RAC1706	RAC1711	
	Slide SW knob	RAC1562	RAC1562	RAC1540	
	Balance knob	RAC1705	RAC1705	RAC1662	
	Power button	RAC1703	RAC1703	RAC1657	
	Packing case	RHG1356	RHG1357	RHG1358	
	Panel stay	RNT1139	RNT1140	RNT1141	
	Washer	ABE1009	······	······	
	Washer	RBF1019	······	······	
	Cord with mini plug	······	PDE–319	PDE–319	
	VR knob assembly	RXA1472	······	······	
	Bonnet	RXX1505	RXX1516	RXX1506	
	Door assembly	RXX1514	······	······	
	Front panel assembly	RXX1510	RXX1511	RXX1512	

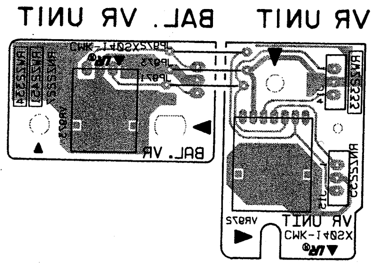
MECHANISM Unit

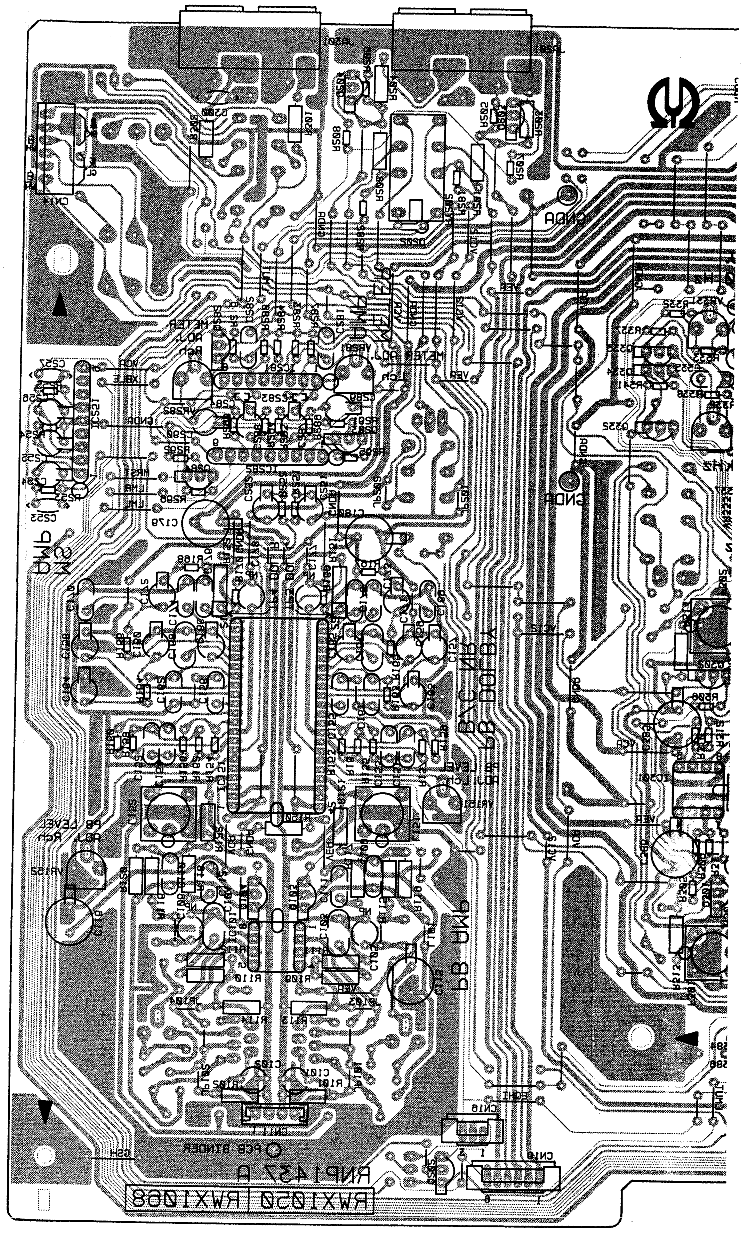
Mechanism Unit RYM1161 and RYM1152 have the same construction except for the following:

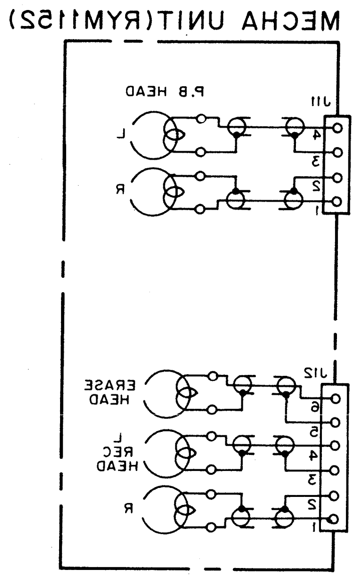
Mark	Symbol & Description	Part No.		Remarks
		RYM1152	RYM1161	
	Screw	RBA1074	RBA–064	
	Spring	RBH1226	······	
	Belt	REB–501	REB1143	
	Insulator	REB1099	······	
	Rubber cushion	······	REB1125	
	Motor bracket	RNK1497	······	
	Capstan motor assembly	RXM1016	RXX1491	
	Capstan motor	······	RXM1054	
	Head base assembly	RXX1443	RXX1523	

● PCB CONNECTIONS DIAGRAM

A

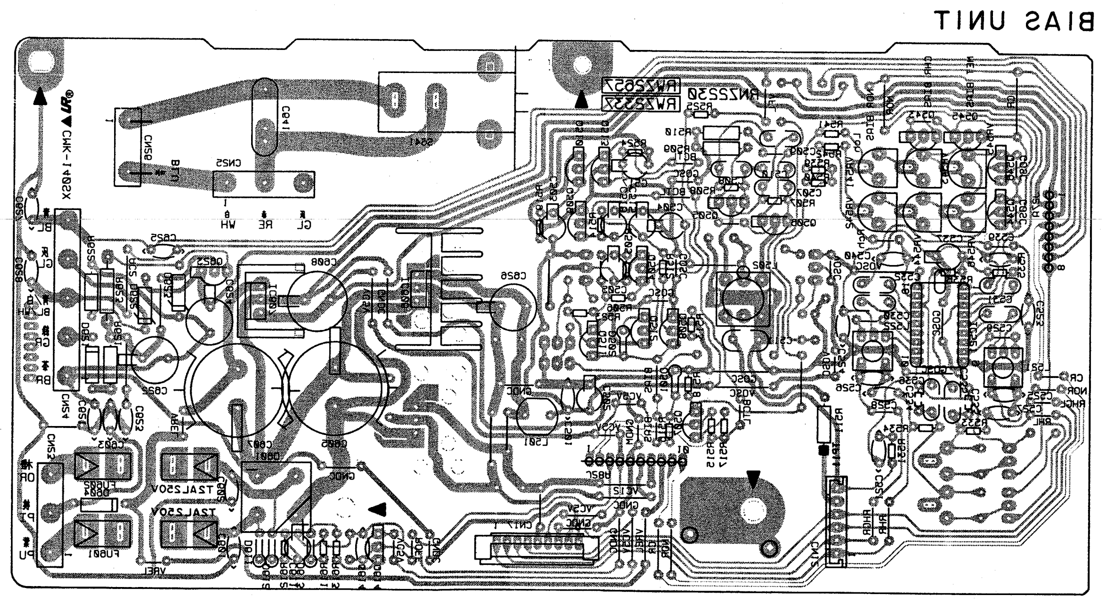

VR UNIT
BAL. VR UNIT
BAL.VR
VR UNIT

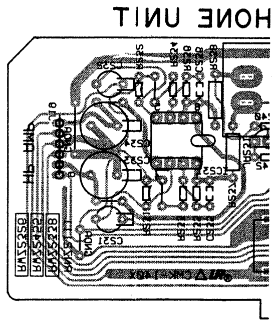

PB AMP
RNP1437-A
RWX1008
RWX1050
PCB BINDER


MECHA UNIT(RYM1152)
P.B HEAD
J11
L
R
J12
ERASE HEAD
L REC HEAD
R

B

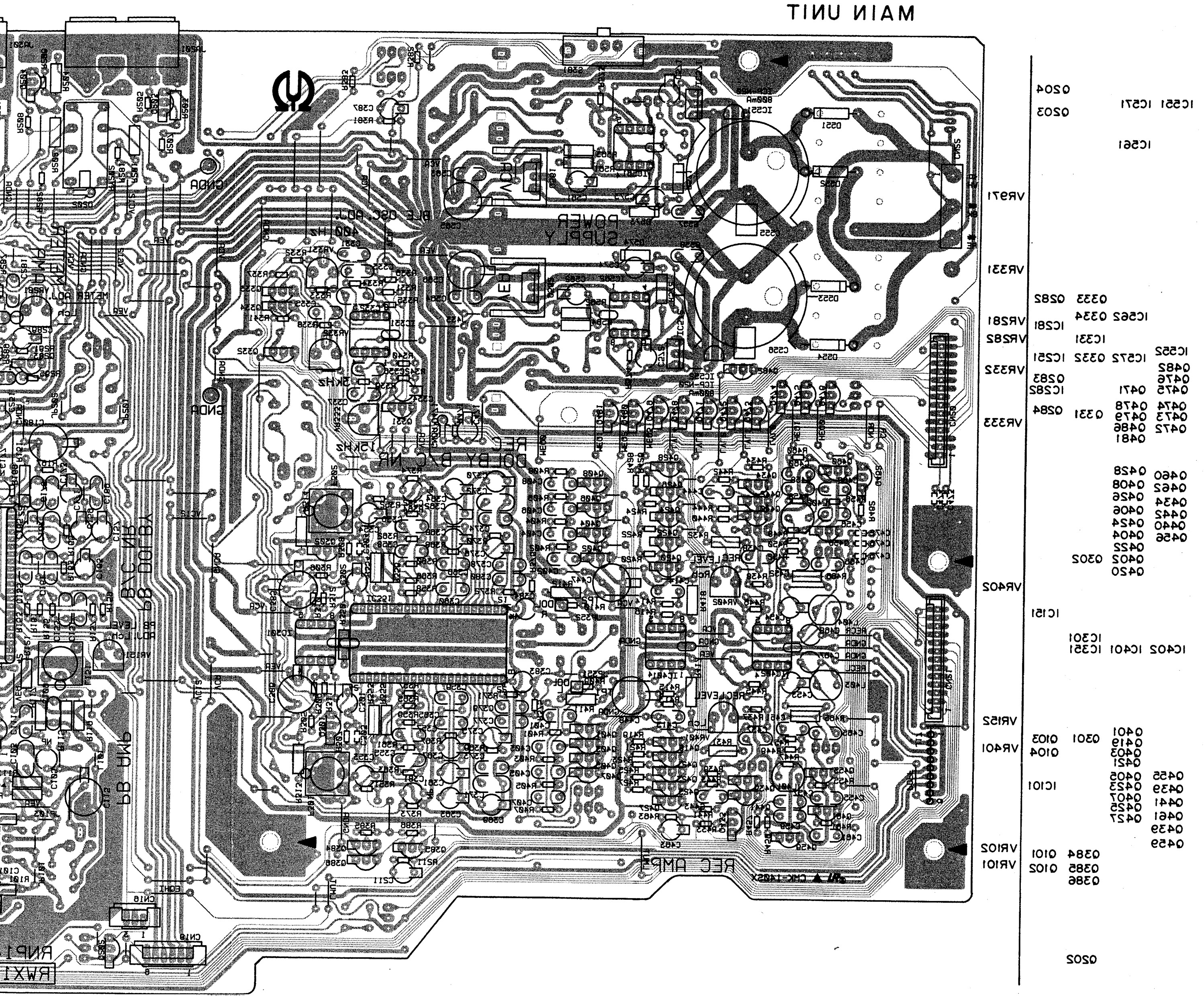
C

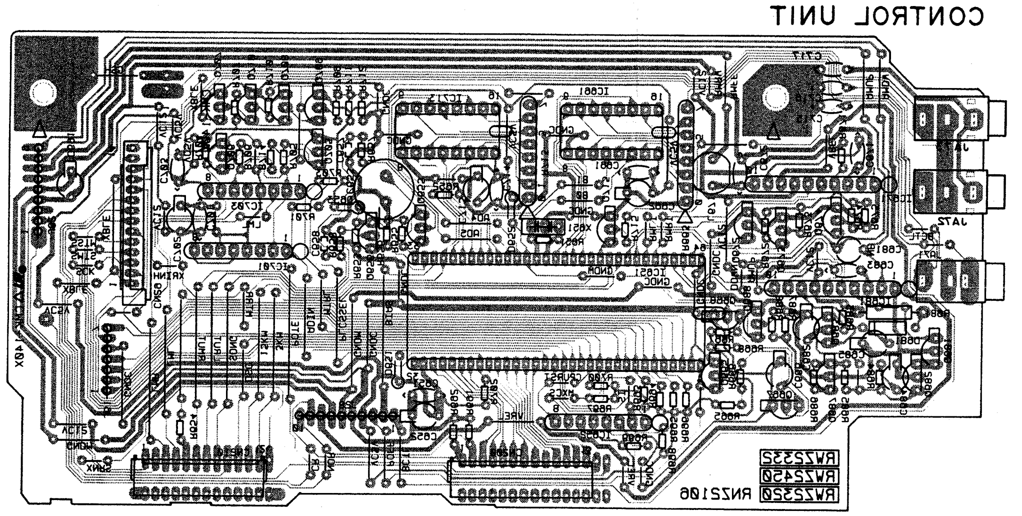


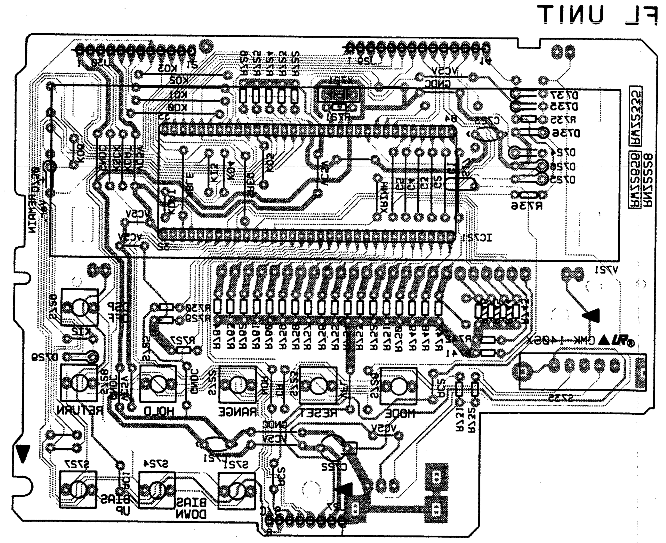


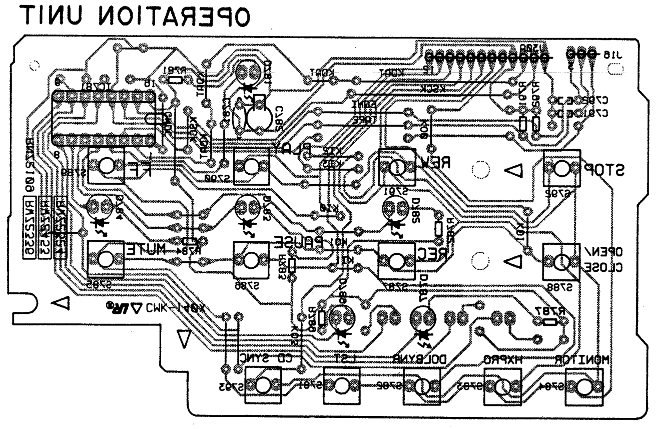
D

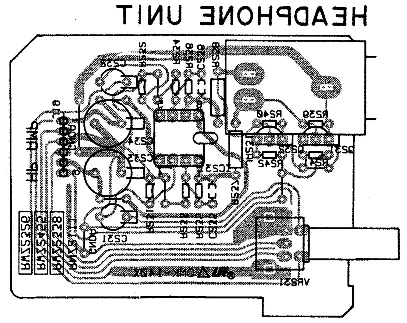
- View from soldering side


MAIN UNIT
POWER SUPPLY
REC AMP
DOLBY


CONTROL UNIT

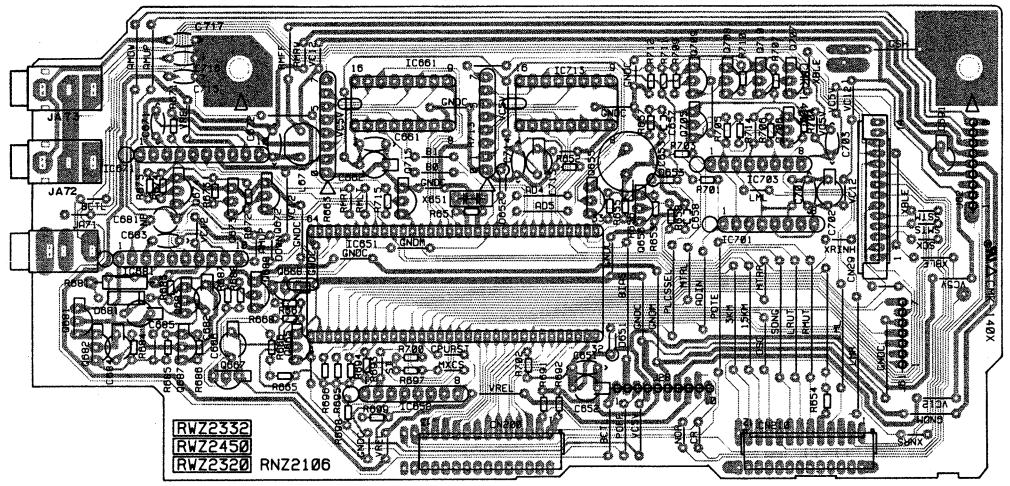



OPERATION UNIT
STOP
REC
PAUSE
MUTE
OPEN/CLOSE
MONITOR

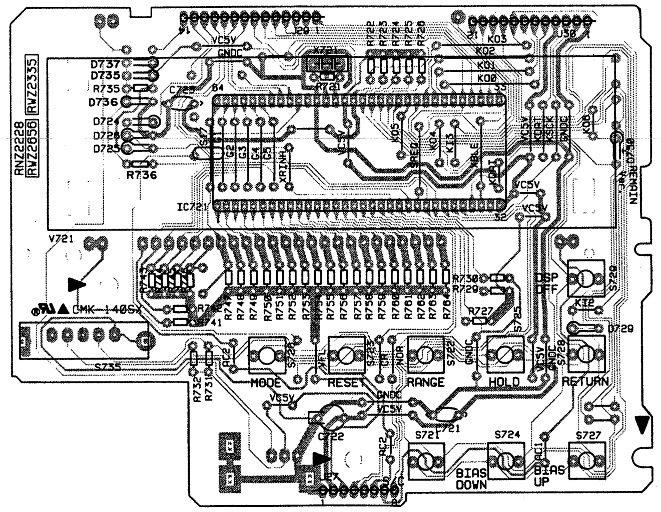

HEADPHONE UNIT

- View from component side

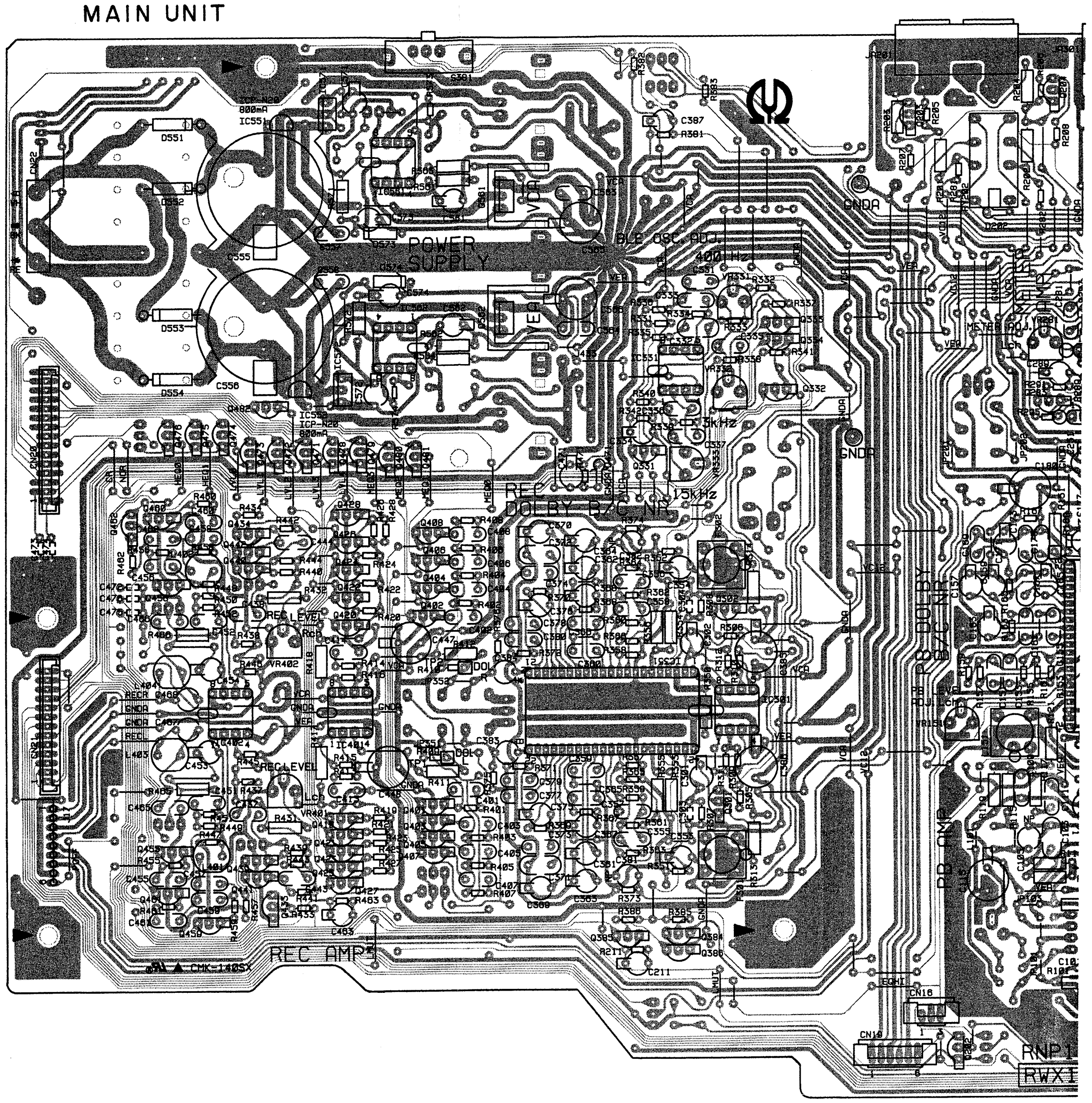
CONTROL UNIT


RWZ2332
RWZ2450
RWZ2320
RNZ2106
JA72
C717
IC661
IC713
IC703
IC701
IC65

FL UNIT

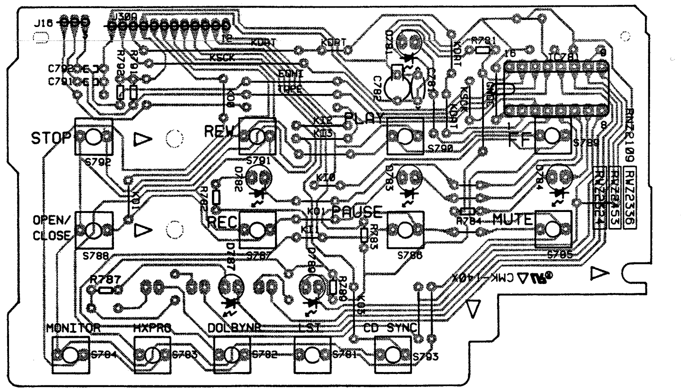

RWZ2335
RNZ2228
RWZ2050
IC721
V721
MODE
RESET
RANGE
HOLD
RETURN
DSP OFF
BIAS DOWN
BIAS UP

MAIN UNIT

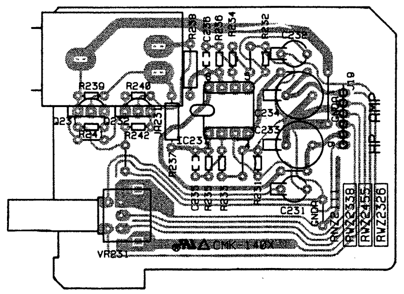

POWER SUPPLY
BLE OSC ADJ
DOLBY B/C NR
REC LEVEL
REC AMP
PB AMP
GNDR
RNP1
RWXI

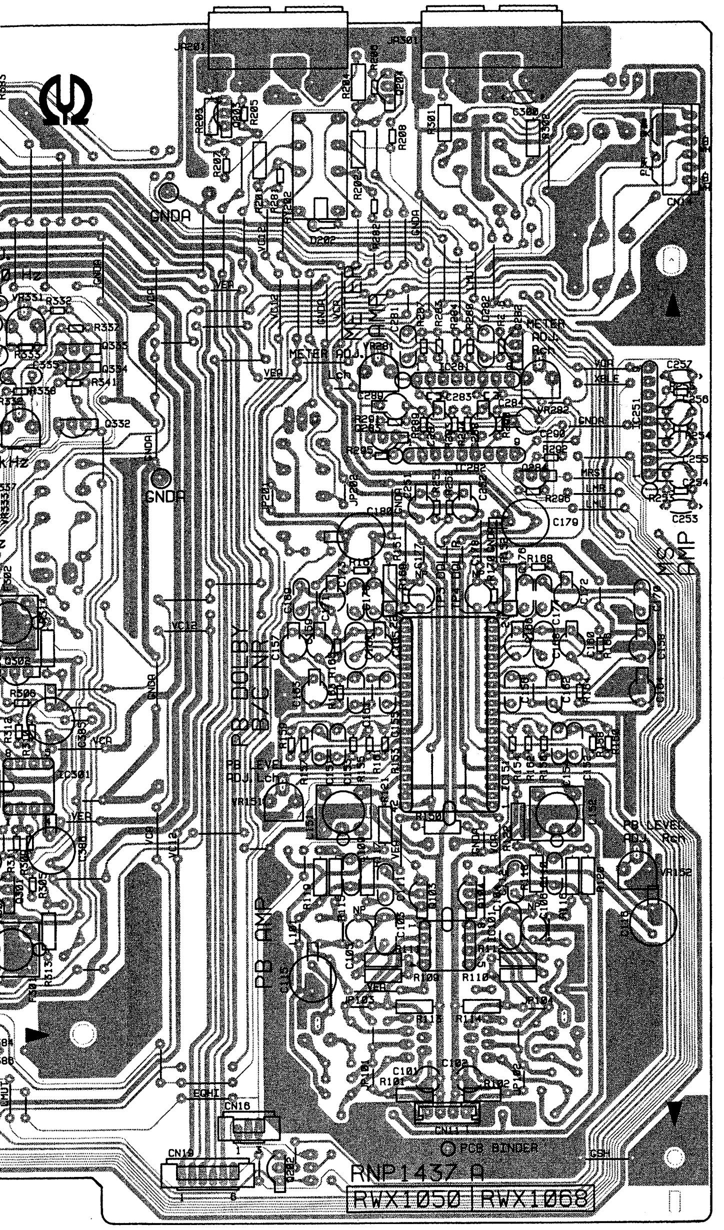
		Q204	
IC551	IC571	Q203	
IC561			
			VR971
			VR331
	Q333	Q282	
IC562	Q334		VR281
		IC281	VR282
	IC331		
IC552	IC572 Q332	IC251	
Q482			VR332
Q476		Q283	
Q475	Q471	IC282	
Q474	Q478	Q284	
Q473	Q479 Q331		VR333
Q472	Q486		
	Q481		
Q460	Q428		
Q462	Q408		
Q434	Q426		
Q442	Q406		
Q440	Q424		
Q456	Q404		
	Q422		
	Q402 Q302		
	Q420		
			VR402
		IC151	
		IC301	
IC402	IC401	IC351	
			VR152
	Q401 Q301	Q103	
	Q419	Q104	VR401
	Q403		
	Q421		
Q455	Q405	IC101	
Q439	Q423		
Q441	Q407		
Q461	Q425		
Q439	Q427		
Q459			
			VR102
	Q384	Q101	
	Q385	Q102	VR101
	Q386		
	Q202		

OPERATION UNIT

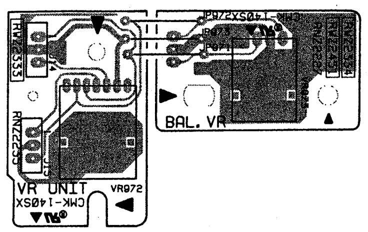

STOP
REV
PLAY
FF
OPEN/CLOSE
REC
PAUSE
MUTE
MONITOR
HXPRO
DOLBYNR
LST
CD SYNC

HEADPHONE UNIT

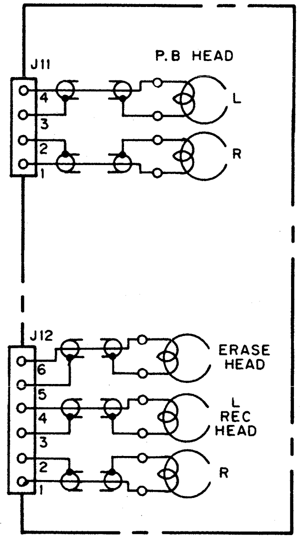

HP AMP
VR231


GNDA
PB DOLBY B/C NR
PB AMP
PB LEVEL
METER ADJ
PCB BINDER
CN11
CN10
RNP1437-A
RWX1050
RWX1068

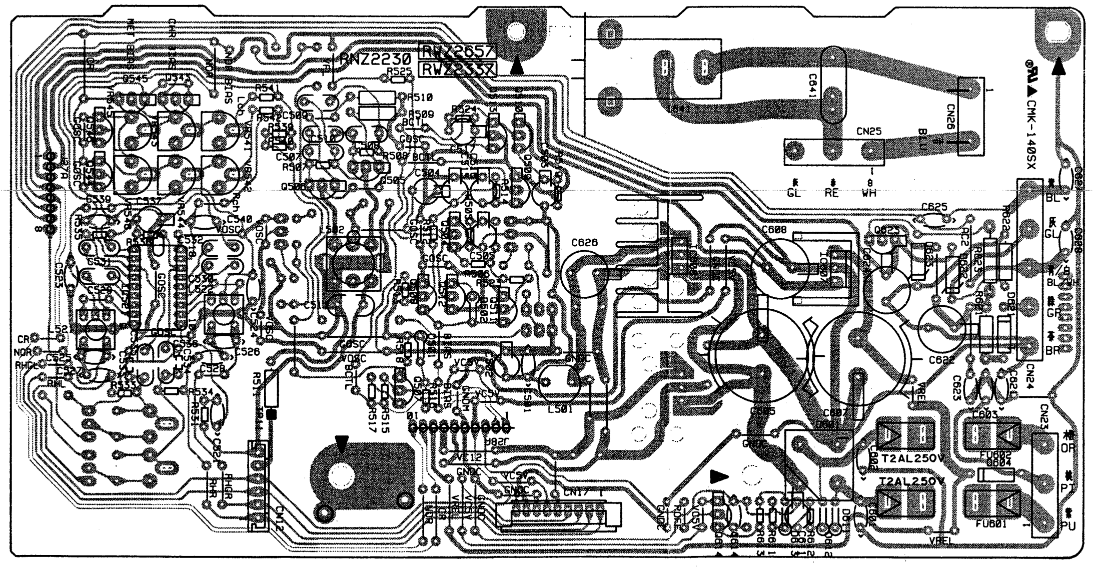
VR UNIT   BAL. VR UNIT


BAL. VR
VR UNIT
XS01-145X
VR972

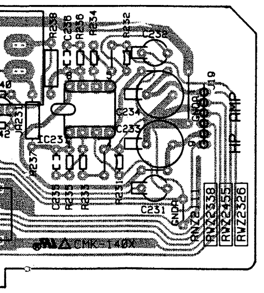
MECHA UNIT(RYM1152)

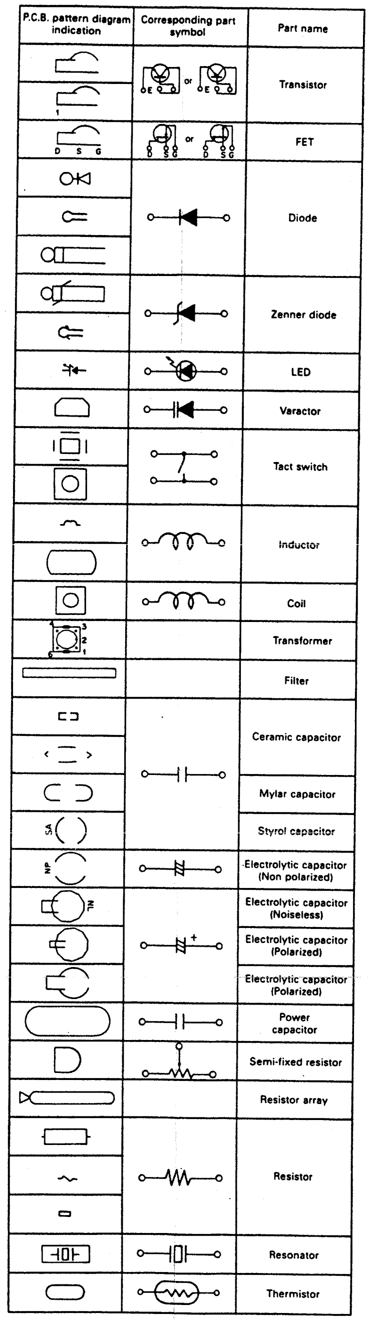

J11
P.B HEAD
L
R
4
3
2
1
J12
ERASE HEAD
L
REC HEAD
R
6
5
4
3
2
1

BIAS UNIT


RNZ2230
RWZ2657
RWZ2332
CHK-140SX
CN25
GL
RE
WH
C641
C626
C680
C625
L501
CN17
T2AL250V
FU601
VRE1

HONE UNIT


HP AMP
CHK-140X



P.C.B. pattern diagram indication	Corresponding part symbol	Part name
		Transistor
		FET
		Diode
		Zenner diode
		LED
		Varactor
		Tact switch
		Inductor
		Coil
		Transformer
		Filter
		Ceramic capacitor
		Mylar capacitor
		Styrol capacitor
		Electrolytic capacitor (Non polarized)
		Electrolytic capacitor (Noiseless)
		Electrolytic capacitor (Polarized)
		Electrolytic capacitor (Polarized)
		Power capacitor
		Semi-fixed resistor
		Resistor array
		Resistor
		Resonator
		Thermistor

1. This P.C.B. connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the above Table.
3. The capacitor terminal marked with ▭ shows negative terminal.
4. The diode marked with ○ shows cathode side.
5. The transistor terminal marked with ▭ shows emitter.

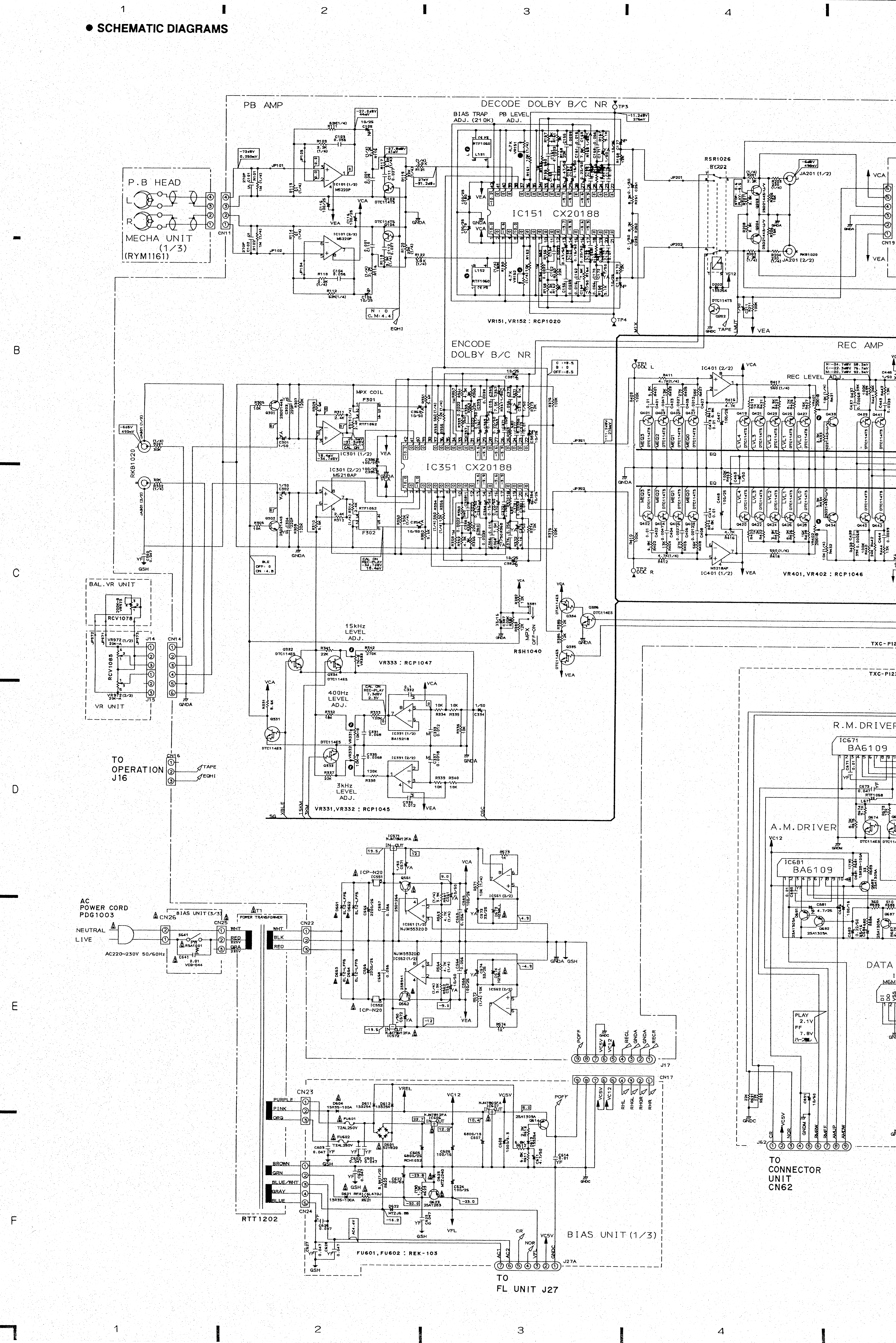
A

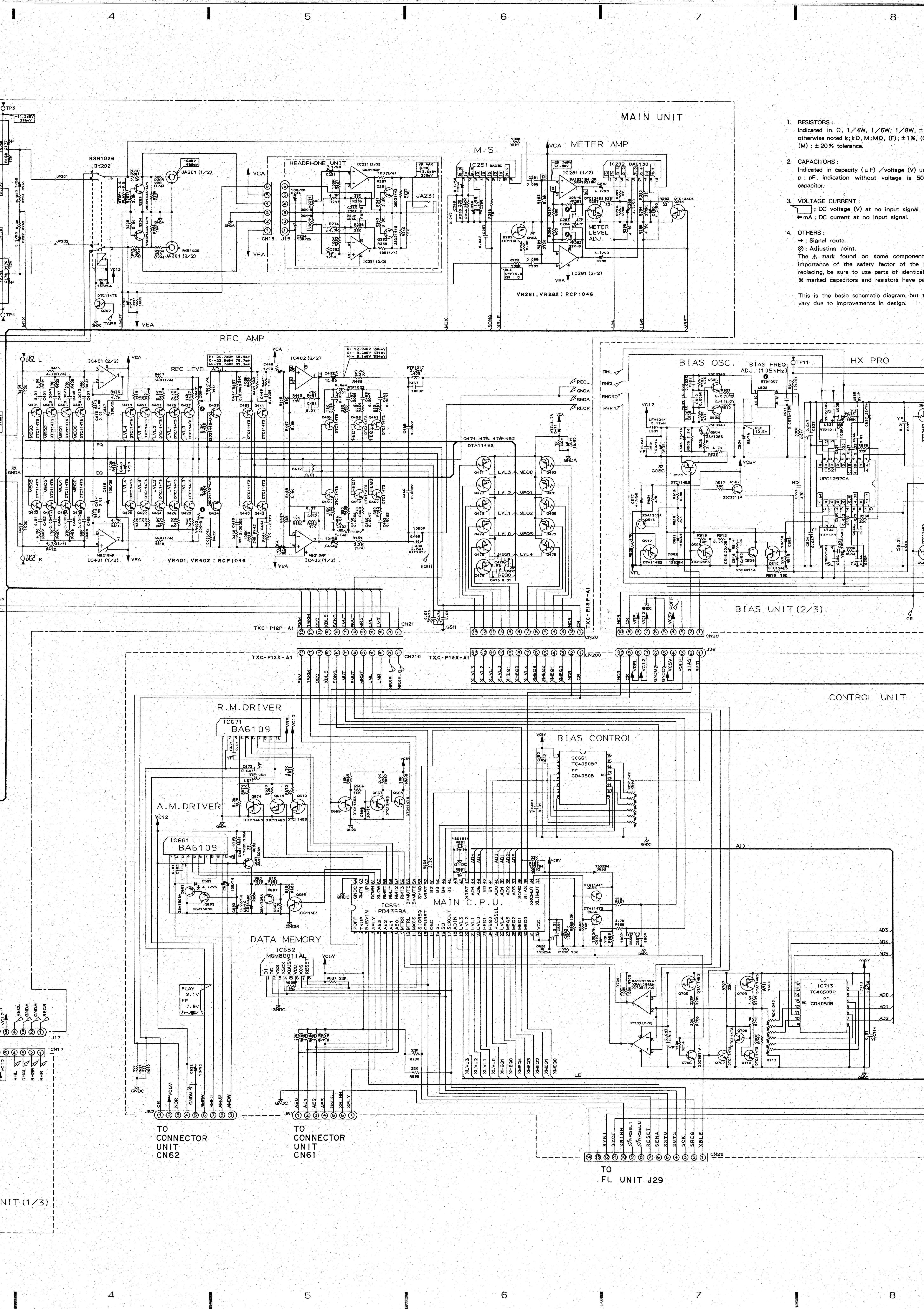
B

C

D

- **SCHEMATIC DIAGRAMS**


PB AMP
DECODE DOLBY B/C NR
P.B HEAD
MECHA UNIT (1/3) (RYM1161)
CN11
BIAS TRAP ADJ. (210K)
PB LEVEL ADJ.
IC101 (1/2) M5220P
IC101 (2/2) M5220P
IC151 CX20188
VR151, VR152 : RCP1020
RSR1026 BY202
JA201 (1/2)
JA201 (2/2)
RKB1020
CN19
ENCODE DOLBY B/C NR
MPX COIL
IC301 (1/2)
IC301 (2/2) M5218AP
IC351 CX20188
REC AMP
REC LEVEL ADJ.
IC401 (2/2)
IC401 (1/2) M5218AP
VR401, VR402 : RCP1046
BAL.VR UNIT
RCV1078
RCV1085
VR UNIT
CN14
15kHz LEVEL ADJ.
VR333 : RCP1047
400Hz LEVEL ADJ.
3kHz LEVEL ADJ.
VR331, VR332 : RCP1045
RSH1040
MPX OFF-ON
TO OPERATION J16
CN16
TAPE
EQH1
TXC-P12
R.M.DRIVER
IC671 BA6109
A.M.DRIVER
IC681 BA6109
DATA
AC POWER CORD PDG1003
NEUTRAL
LIVE
AC220-230V 50/60Hz
CN26
BIAS UNIT (3/3)
CN25
T1 POWER TRANSFORMER
CN22
IC551 NJM78M12FA
IC561 (1/2) NJM5532DD
NJM5532DD IC562 (1/2)
IC572 NJM79M12FA
J17
CN17
CN23
RTT1202
CN24
BIAS UNIT (1/3)
FU601, FU602 : REK-103
TO FL UNIT J27
J27A
TO CONNECTOR UNIT CN62
J52
PLAY 2.1V
FF 7.8V
1
2
3
4
B
C
D
E
F


MAIN UNIT
METER AMP
M.S.
HEADPHONE UNIT
REC AMP
REC LEVEL ADJ.
VR401, VR402 : RCP1046
VR281, VR282 : RCP1046
METER LEVEL ADJ.
BIAS OSC.
BIAS FREQ. ADJ. (105kHz)
HX PRO
BIAS UNIT (2/3)
CONTROL UNIT
R.M.DRIVER
A.M.DRIVER
BIAS CONTROL
MAIN C.P.U.
DATA MEMORY
IC651 PD4359A
IC652 M6M80011AL
IC671 BA6109
IC681 BA6109
IC661 TC4050BP or CD4050B
IC713 TC4050BP or CD4050B
IC521 UPC1297CA
IC401 (1/2)
IC401 (2/2)
IC402 (1/2)
IC402 (2/2)
IC251 BA336
IC281 (1/2)
IC281 (2/2)
IC282 BA6138
IC231 (1/2)
IC231 (2/2)
RSR1026
BY202
JA201 (1/2)
JA201 (2/2)
JA231
CN19
J19
CN21
CN20
CN28
CN210
CN200
J28
J17
CN17
CN29
J62
J61
TXC-P12P-A1
TXC-P12X-A1
TXC-P13P-A1
TXC-P13X-A1
TO CONNECTOR UNIT CN62
TO CONNECTOR UNIT CN61
TO FL UNIT J29
NIT (1/3)
PLAY 2.1V
FF 7.8V
TP1
TP2
TP3
TP4
TP11
4
5
6
7
8

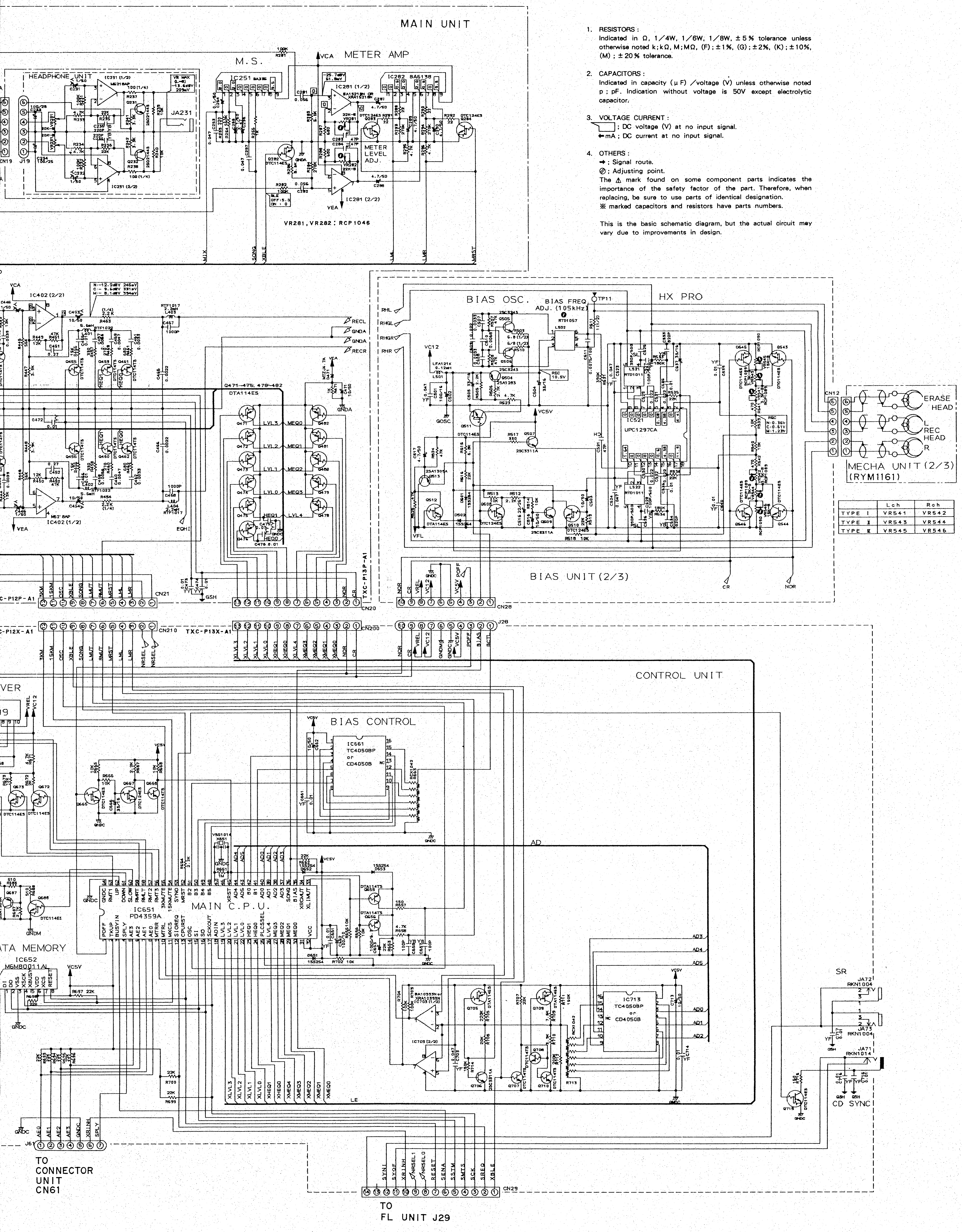
1. RESISTORS :
Indicated in Ω, 1／4W, 1／6W, 1／8W, ±
otherwise noted k ; kΩ, M ; MΩ, (F) ; ±1%, (
(M) ; ±20% tolerance.

2. CAPACITORS :
Indicated in capacity (μF) ／voltage (V) u
p ; pF. Indication without voltage is 50
capacitor.

3. VOLTAGE CURRENT :
; DC voltage (V) at no input signal.
←mA ; DC current at no input signal.

4. OTHERS :
➡ ; Signal route.
⊘ ; Adjusting point.
The ⚠ mark found on some component
importance of the safety factor of the
replacing, be sure to use parts of identical
※ marked capacitors and resistors have pa

This is the basic schematic diagram, but t
vary due to improvements in design.


MAIN UNIT
M.S.
METER AMP
HEADPHONE UNIT
IC231 (1/2)
IC231 (2/2)
JA231
IC251 BA3116
IC281 (1/2)
IC281 (2/2)
IC282 BA6138
METER LEVEL ADJ.
VR281, VR282 : RCP1046
IC402 (2/2)
IC402 (1/2)
Q471–476, 478–482
DTA114ES
RECL
GNDA
RECR
BIAS OSC.
BIAS FREQ. ADJ. (105kHz)
TP11
HX PRO
UPC1297CA
IC521
BIAS UNIT (2/3)
CN12
ERASE HEAD
L
REC HEAD
R
MECHA UNIT (2/3)
(RYM1161)
CN21
CN20
TXC-P13P-A1
CN28
CN210
TXC-P13X-A1
CN200
J28
CONTROL UNIT
BIAS CONTROL
IC661
TC4050BP
or
CD4050B
MAIN C.P.U.
IC651
PD4359A
DATA MEMORY
IC652
M6M80011AL
IC713
TC4050BP
or
CD4050B
AD
LE
SR
JA72
RKN1004
JA73
RKN1004
JA71
RKN1014
CD SYNC
J61
TO CONNECTOR UNIT CN61
CN29
TO FL UNIT J29

	Lch	Rch
TYPE Ⅰ	VR541	VR542
TYPE Ⅱ	VR543	VR544
TYPE Ⅲ	VR545	VR546

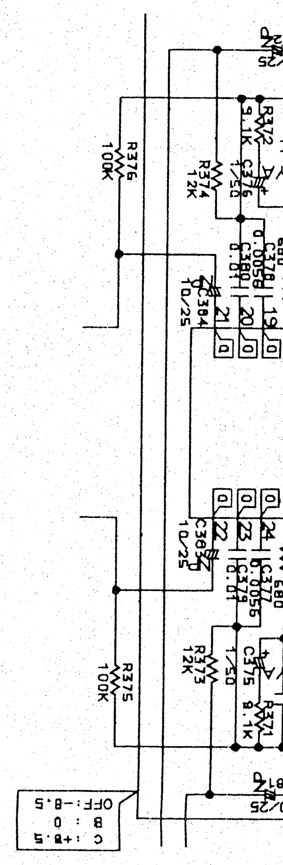
1. RESISTORS :
   Indicated in Ω, 1/4W, 1/6W, 1/8W, ±5% tolerance unless otherwise noted k;kΩ, M;MΩ, (F);±1%, (G);±2%, (K);±10%, (M) ; ±20% tolerance.

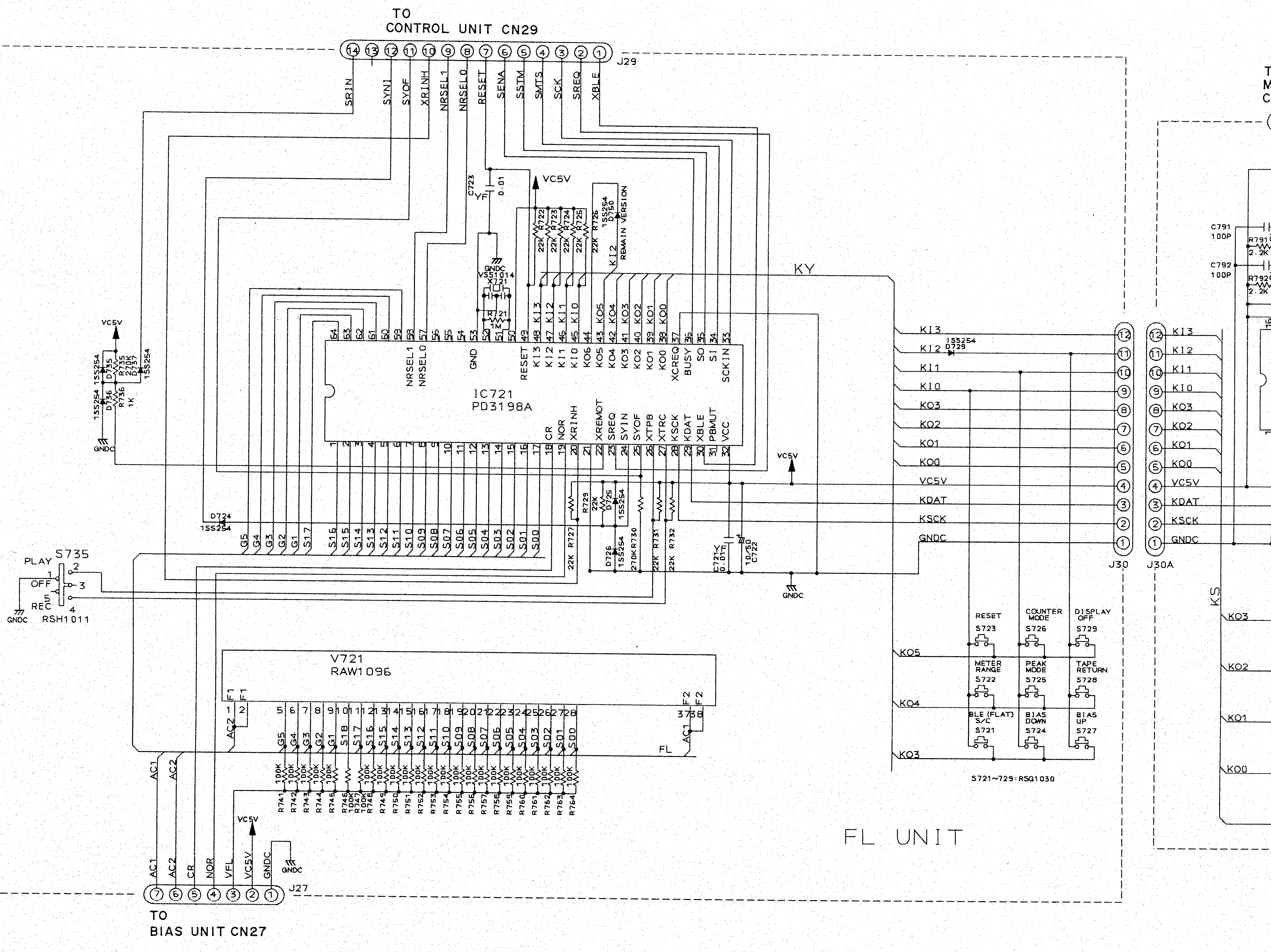
2. CAPACITORS :
   Indicated in capacity (μF) /voltage (V) unless otherwise noted p ; pF. Indication without voltage is 50V except electrolytic capacitor.

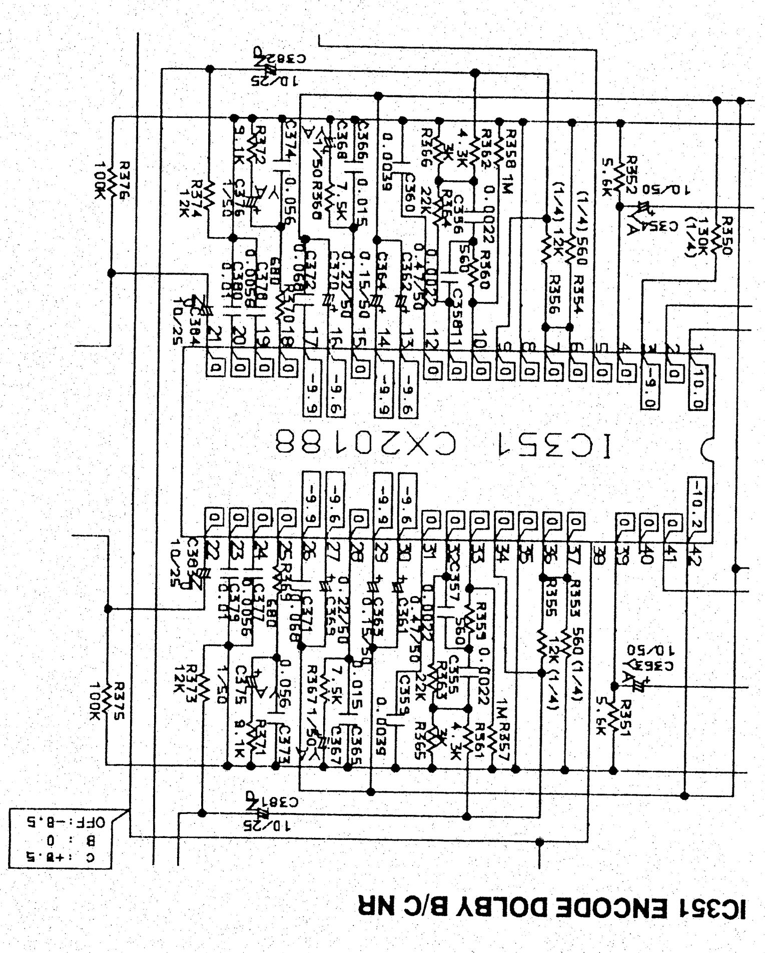
3. VOLTAGE CURRENT :
   ; DC voltage (V) at no input signal.
   ←mA ; DC current at no input signal.

4. OTHERS :
   ➡ ; Signal route.
   ⊘ ; Adjusting point.
   The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
   ※ marked capacitors and resistors have parts numbers.

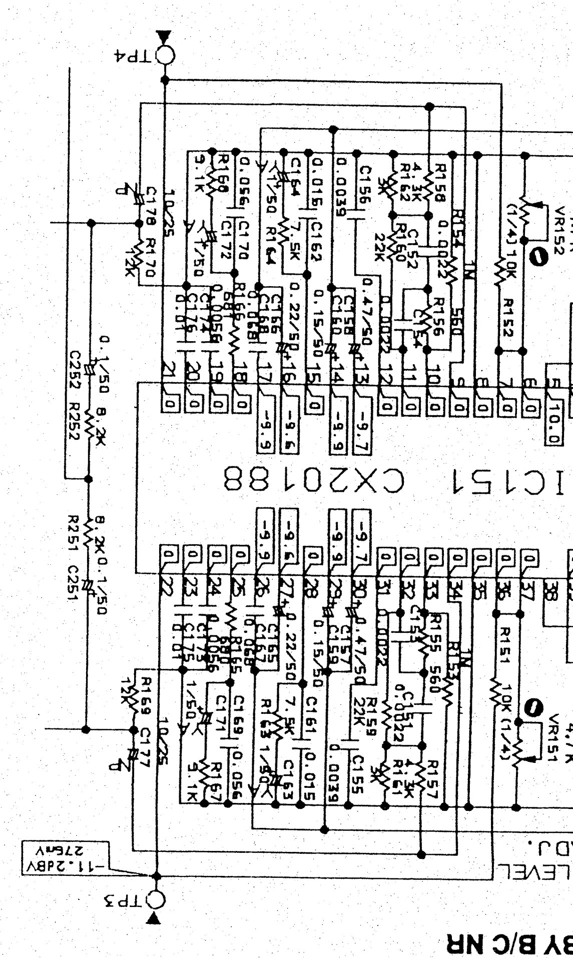
This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.


R376
100K
R374
12K
C384
10/25
R375
100K
R373
12K
C383
10/25
C : +8.5
B : 0
OFF : -8.5

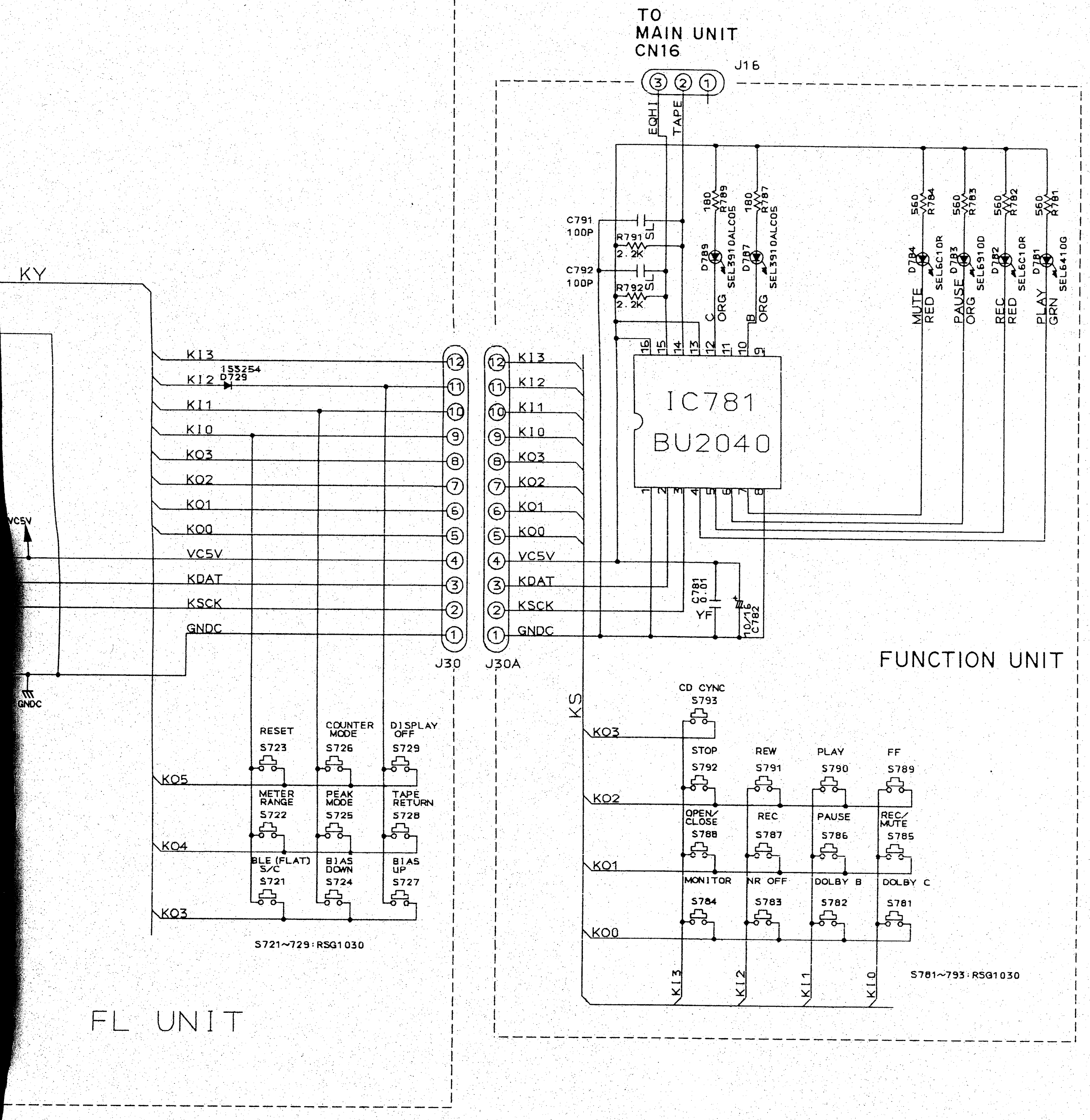

TO
CONTROL UNIT CN29
J29
SRIN
SYNI
SYOF
XRINH
NRSEL1
NRSEL0
RESET
SENA
SSTM
SMTS
SCK
SREQ
XBLE
C723
YF
0.01
VC5V
R722
R723
R724
R725
R726
22K
1SS254
D750
KI2
REMAIN VERSION
GNDC
VSS1014
X721
R721
1M
KY
IC721
PD3198A
NRSEL1
NRSEL0
GND
RESET
KI3
KI2
KI1
KI0
KO6
KO5
KO4
KO3
KO2
KO1
KO0
XCREQ
BUSY
SO
SI
SCKIN
CR
NOR
XRINH
XREMOT
SREQ
SYIN
SYOF
XTPB
XTRC
KSCK
KDAT
XBLE
PBMUT
VCC
1SS254
D736
D735
D737
R736
1K
R735
270K
D724
1SS254
G5
G4
G3
G2
G1
S17
S16
S15
S14
S13
S12
S11
S10
S09
S08
S07
S06
S05
S04
S03
S02
S01
S00
PLAY
S735
OFF
REC
RSH1011
22K R727
R729
22K
D725
D726
1SS254
270KR730
22K R731
22K R732
C721
0.01
10/50
C722
J30
J30A
KI3
KI2
D729
1SS254
KI1
KI0
KO3
KO2
KO1
KO0
VC5V
KDAT
KSCK
GNDC
RESET
S723
COUNTER MODE
S726
DISPLAY OFF
S729
METER RANGE
S722
PEAK MODE
S725
TAPE RETURN
S728
BLE (FLAT) S/C
S721
BIAS DOWN
S724
BIAS UP
S727
S721~729:RSG1030
KO5
KO4
KO3
V721
RAW1096
F1
F2
AC1
AC2
FL
R741 ~ R764
100K
FL UNIT
J27
TO
BIAS UNIT CN27
AC1
AC2
CR
NOR
VFL
VC5V
GNDC
KS
C791
100P
C792
100P
R791
R792
2.2K


IC351 CX20188
R376 100K
R375 100K
C : +8.5
B : 0
OFF : -8.5

IC351 ENCODE DOLBY B/C NR


IC151 CX20188
TP3
TP4
-11.2dBV 276mV
LEVEL ADJ.
VR151
VR152

BY B/C NR


TO MAIN UNIT CN16
J16
EQHI
TAPE
IC781
BU2040
C791 100P
C792 100P
R791 2.2K
R792 2.2K
D789 SEL3910ALC05
D787 SEL3910ALC05
D784 MUTE RED SEL6C10R
D783 PAUSE ORG SEL6910D
D782 REC RED SEL6C10R
D781 PLAY GRN SEL6410G
C781 0.01 YF
C782 10/16
J30
J30A
KI3
KI2
KI1
KI0
KO3
KO2
KO1
KO0
VC5V
KDAT
KSCK
GNDC
1SS254 D729
KY
KS
RESET S723
COUNTER MODE S726
DISPLAY OFF S729
METER RANGE S722
PEAK MODE S725
TAPE RETURN S728
BLE (FLAT) S/C S721
BIAS DOWN S724
BIAS UP S727
S721~729:RSG1030
CD CYNC S793
STOP S792
REW S791
PLAY S790
FF S789
OPEN/CLOSE S788
REC S787
PAUSE S786
REC/MUTE S785
MONITOR S784
NR OFF S783
DOLBY B S782
DOLBY C S781
S781~793:RSG1030
FUNCTION UNIT
FL UNIT

• PCB PARTS LIST

NOTES:

- Parts without part number cannot be supplied.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may
- The ⚠ mark found on some component parts indicates the importance of th to use parts of identical designation.
- When ordering resistors, first convert resistance values into code form as sh

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560

560 Ω → 56 × 10¹ → 561 ……………………………

47k Ω → 47 × 10³ → 473 ……………………………

0.5 Ω → 0R5 ……………………………

1 Ω → 010 ……………………………

Ex.2 When there are 3 effective digits (such as in high precision metal film

5.62k Ω → 562 × 10¹ → 5621 ……………………………

Mark	No.	Description	Part No.

LIST OF ASSEMBLIES

	CONTROL UNIT		
	BALANCE VR UNIT		
	FL UNIT		
	FUNCTION UNIT		
	BIAS UNIT		
	HEADPHONE UNIT		
	MAIN UNIT		
	VR UNIT		

CONTROL UNIT

SEMICONDUCTORS

	IC651	MAIN CPU	PD4359A
	IC652		M6M80011AL
	IC661	CMOS LOGIC IC	TC4050BP
	IC671	IC	BA6109
	IC681	IC	BA6109
	IC703	COMPARATOR	BA10393N
	IC713	CMOS LOGIC IC	TC4050BP
	Q655, 656	DIGITAL TRANSISTOR	DTA114TS
	Q665	TRANSISTOR	DTC114ES
	Q667	TRANSISTOR	DTC124ES
	Q668	DIGITAL TRANSISTOR	DTC114TS
	Q672-674	TRANSISTOR	DTC114ES
	Q681-683	TRANSISTOR	2SA1309A
	Q687	TRANSISTOR	2SA1309A
	Q688	TRANSISTOR	DTC114ES
	Q705	DIGITAL TRANSISTOR	DTA114ES
	Q706	TRANSISTOR	2SC3311A
	Q707, 708	DIGITAL TRANSISTOR	DTC114TS
	Q709	DIGITAL TRANSISTOR	DTA114ES
	Q710	DIGITAL TRANSISTOR	DTC114TS
	Q715	TRANSISTOR	DTC114ES
	D651-653	DIODE	1SS254
⚠	D681	RECRIFIER DIODE	1SR35-100A

COILS/TRANSFORMERS

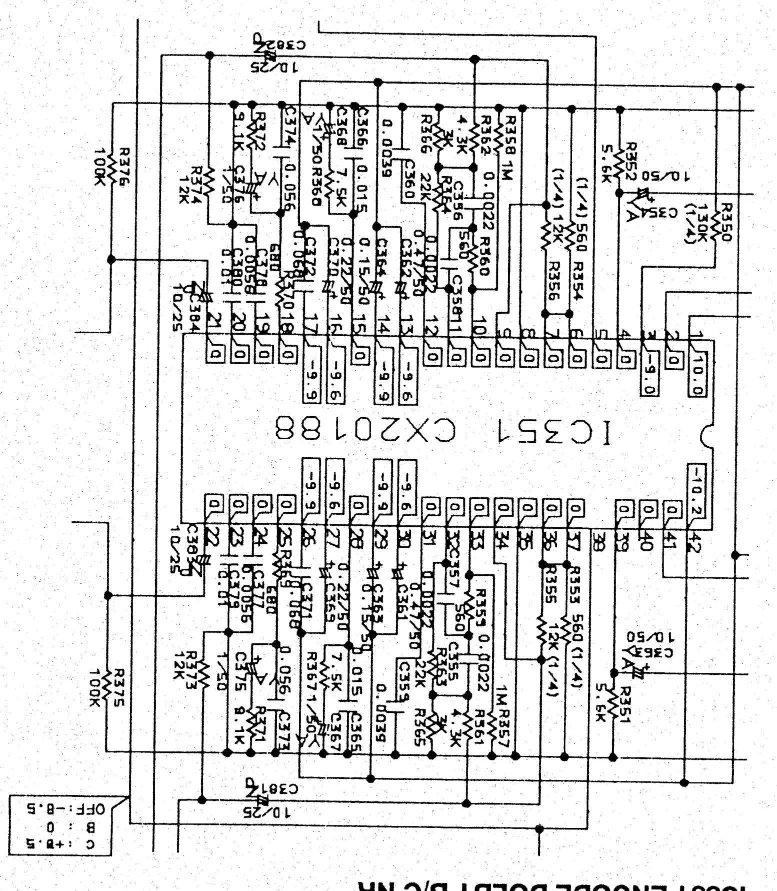
	L671		RTF1068

Ma

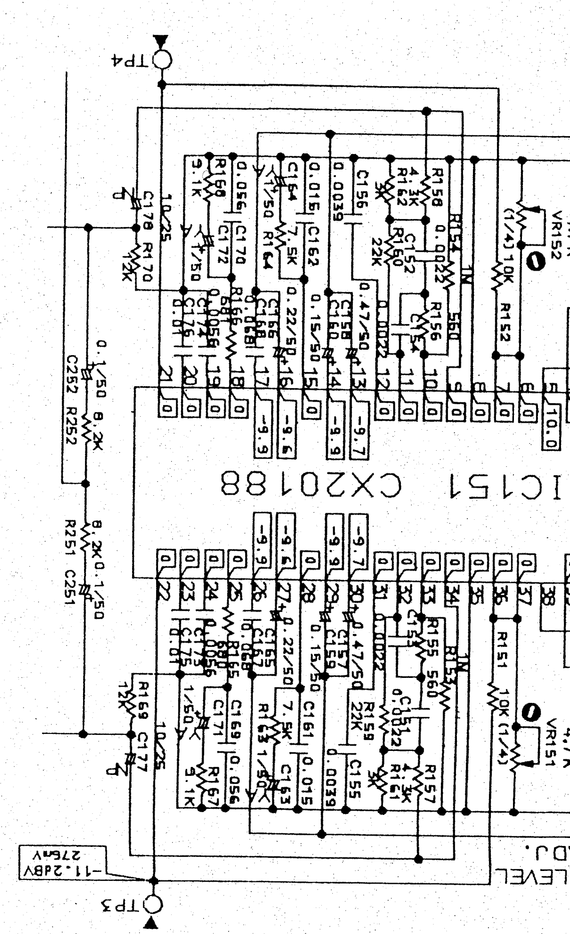
CA

RES

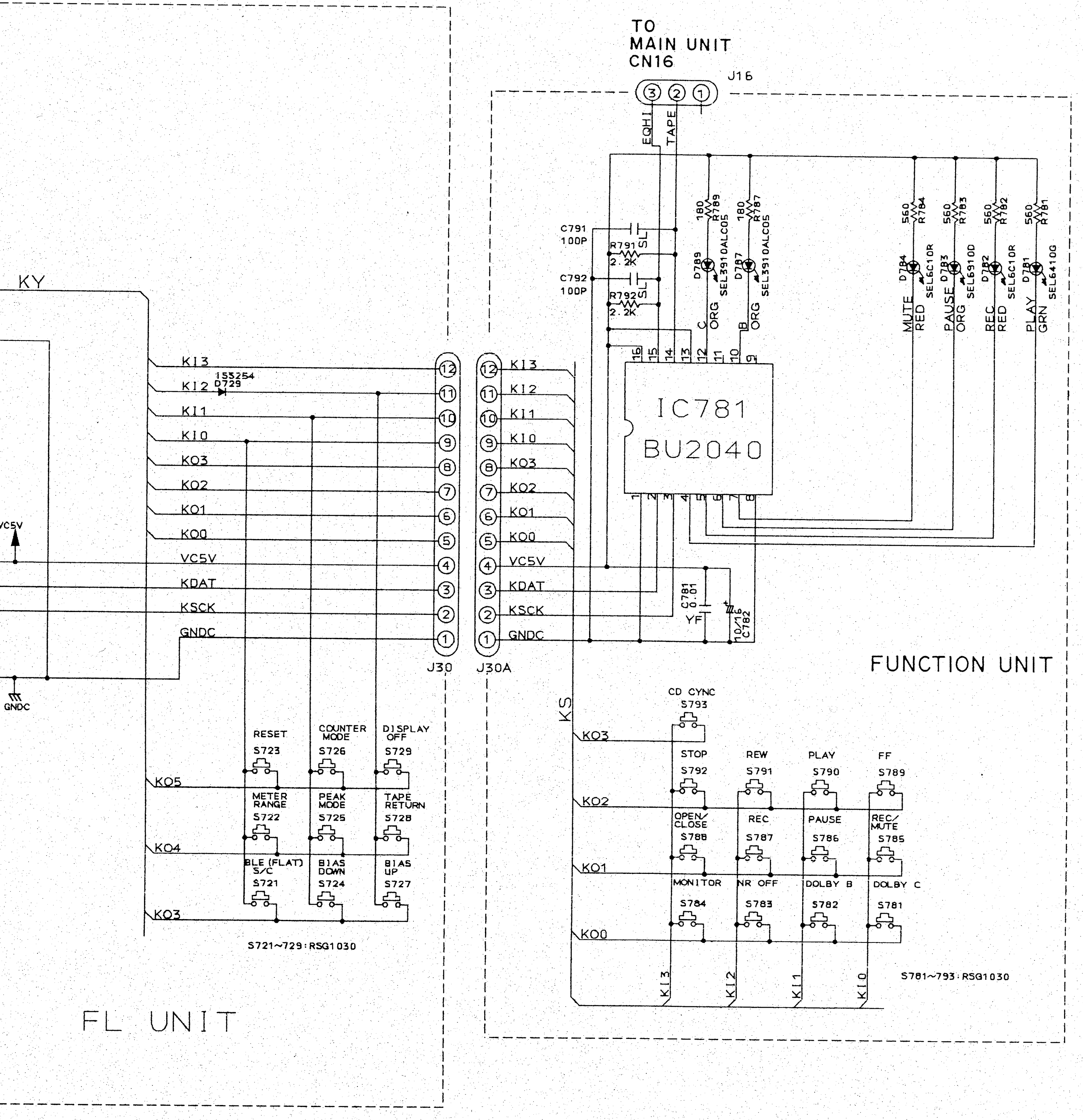
OTH


IC351 CX20188
C : +8.5
B : 0
OFF : -8.5
R375 100K
R376 100K
C381 10/25
C382 10/25
C383 10/50
C384 10/25
R350 (1/4) 130K
R351 5.6K
R352 5.6K
-10.0
-10.2

IC351 ENCODE DOLBY B/C NR


IC151 CX20188
TP3
TP4
-11.2dBV 276mV
LEVEL ADJ.
VR151
VR152
R251 C251 8.2K 0.1/50
C252 R252 0.1/50 8.2K

BY B/C NR


TO MAIN UNIT CN16
J16
EQHI
TAPE
IC781
BU2040
C791 100P
C792 100P
R791 2.2K
R792 2.2K
C781 0.01 YF
C782 10/16
D789 SEL5910ALC05 C ORG
D787 SEL5910ALC05 B ORG
R789 180
R787 180
MUTE RED D784 SEL6C10R
PAUSE ORG D783 SEL6910D
REC RED D782 SEL6C10R
PLAY GRN D781 SEL6410G
R784 560
R783 560
R782 560
R781 560
KY
KS
KI3
KI2
KI1
KI0
KO3
KO2
KO1
KO0
VC5V
KDAT
KSCK
GNDC
1SS254 D729
J30
J30A
FUNCTION UNIT
CD CYNC S793
STOP S792
REW S791
PLAY S790
FF S789
OPEN/CLOSE S788
REC S787
PAUSE S786
REC/MUTE S785
MONITOR S784
NR OFF S783
DOLBY B S782
DOLBY C S781
S781~793 : RSG1030
RESET S723
COUNTER MODE S726
DISPLAY OFF S729
METER RANGE S722
PEAK MODE S725
TAPE RETURN S728
BLE (FLAT) S/C S721
BIAS DOWN S724
BIAS UP S727
S721~729 : RSG1030
FL UNIT

• PCB PARTS LIST

NOTES:

- Parts without part number cannot be supplied.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may
- The ⚠ mark found on some component parts indicates the importance of t to use parts of identical designation.
- When ordering resistors, first convert resistance values into code form as sh

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560

560 Ω → 56 × 10^1 → 561 ··························

47k Ω → 47 × 10^3 → 473 ··························

0.5 Ω → 0R5 ··························

1 Ω → 010 ··························

Ex.2 When there are 3 effective digits (such as in high precision metal film

5.62k Ω → 562 × 10^1 → 5621 ··························

LIST OF ASSEMBLIES

Mark	No.	Description	Part No.
		CONTROL UNIT	
		BALANCE VR UNIT	
		FL UNIT	
		FUNCTION UNIT	
		BIAS UNIT	
		HEADPHONE UNIT	
		MAIN UNIT	
		VR UNIT	

CONTROL UNIT

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC651	MAIN CPU	PD4359A
	IC652		M6M80011AL
	IC661	CMOS LOGIC IC	TC4050BP
	IC671	IC	BA6109
	IC681	IC	BA6109
	IC703	COMPARATOR	BA10393N
	IC713	CMOS LOGIC IC	TC4050BP
	Q655, 656	DIGITAL TRANSISTOR	DTA114TS
	Q665	TRANSISTOR	DTC114ES
	Q667	TRANSISTOR	DTC124ES
	Q668	DIGITAL TRANSISTOR	DTC114TS
	Q672-674	TRANSISTOR	DTC114ES
	Q681-683	TRANSISTOR	2SA1309A
	Q687	TRANSISTOR	2SA1309A
	Q688	TRANSISTOR	DTC114ES
	Q705	DIGITAL TRANSISTOR	DTA114ES
	Q706	TRANSISTOR	2SC3311A
	Q707, 708	DIGITAL TRANSISTOR	DTC114TS
	Q709	DIGITAL TRANSISTOR	DTA114ES
	Q710	DIGITAL TRANSISTOR	DTC114TS
	Q715	TRANSISTOR	DTC114ES
	D651-653	DIODE	1SS254
⚠	D681	RECRIFIER DIODE	1SR35-100A

COILS/TRANSFORMERS

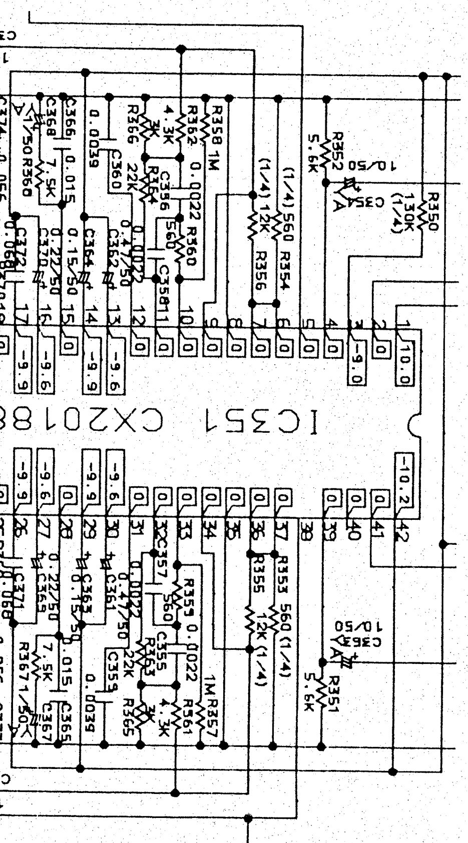
Mark	No.	Description	Part No.
	L671		RTF1068

Ma

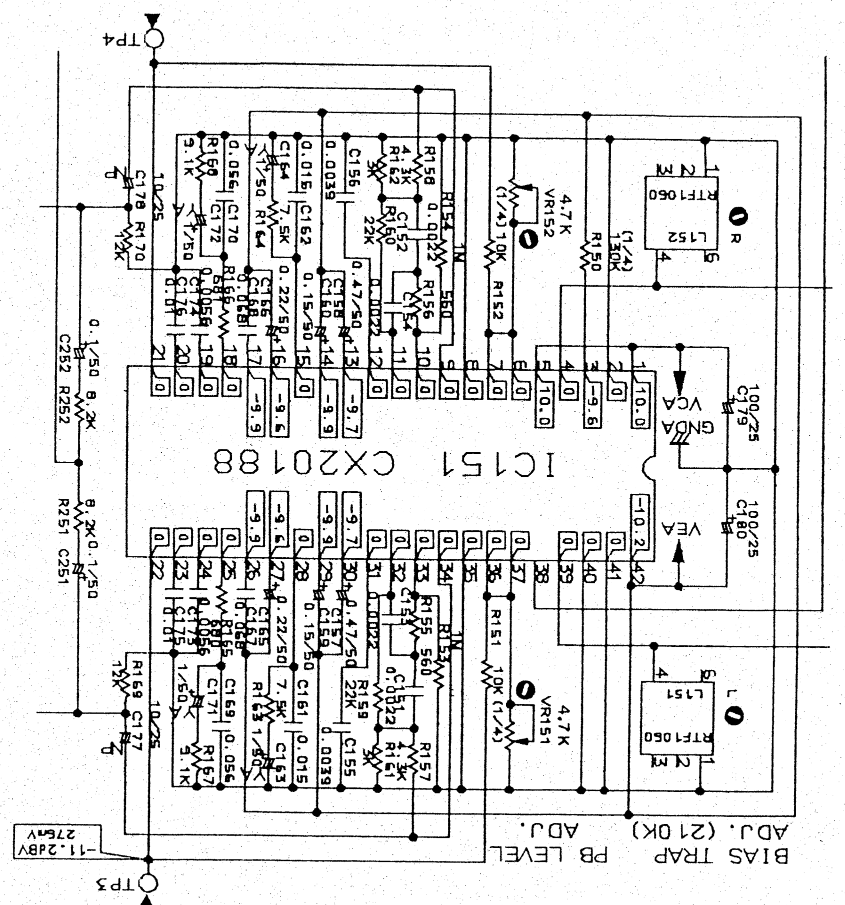
CA

RES

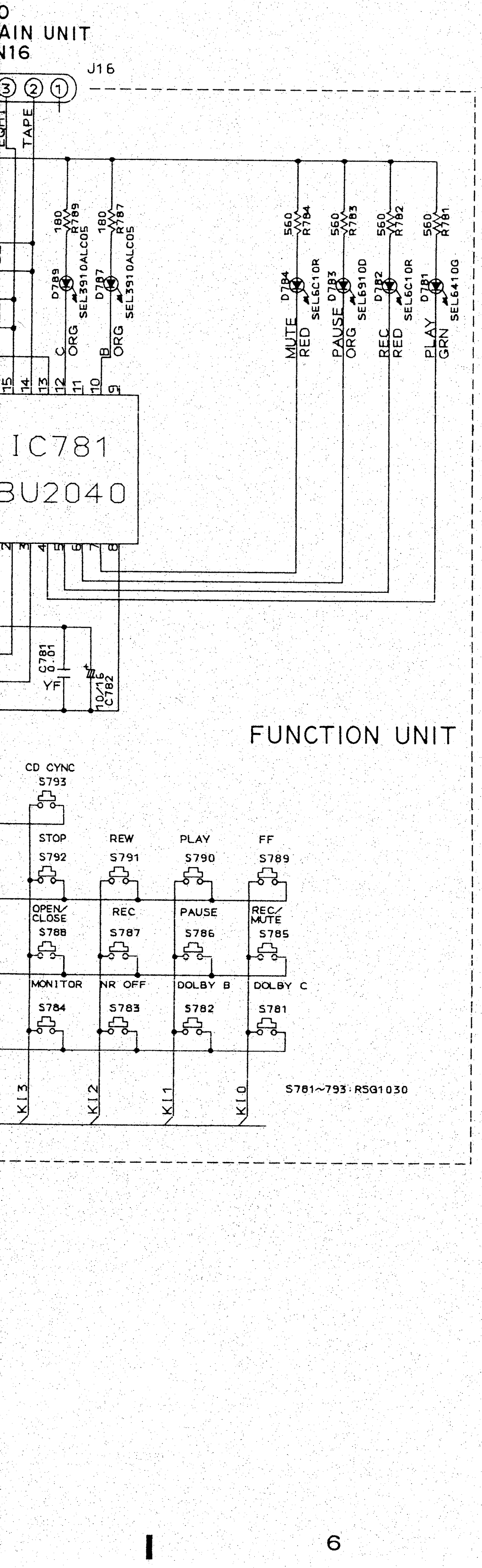
OTH



IC351 ENCODE DOLBY B/C NR


BIAS TRAP ADJ. (210K)
PB LEVEL ADJ.
TP3
TP4
IC151 CX20188
-11.2dBV 275mV

IC151 ENCODE DOLBY B/C NR


MAIN UNIT
J16
TAPE
IC781
BU2040
YF
C781 0.01
10/16 C782
MUTE RED D784 SEL6C10R 560 R784
PAUSE ORG D783 SEL6910D 560 R783
REC RED D782 SEL6C10R 560 R782
PLAY GRN D781 SEL6410G 560 R781
C ORG D789 SEL3910ALC05 180 R789
B ORG D787 SEL3910ALC05 180 R787
FUNCTION UNIT
CD SYNC S793
STOP S792
REW S791
PLAY S790
FF S789
OPEN/CLOSE S788
REC S787
PAUSE S786
REC/MUTE S785
MONITOR S784
NR OFF S783
DOLBY B S782
DOLBY C S781
KI3
KI2
KI1
KI0
S781~793: RSG1030

• PCB PARTS LIST

NOTES:

- Parts without part number cannot be supplied.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%)

560 Ω → 56 × 10^1 → 561 ································ RD1/4PS $\boxed{5}\boxed{6}\boxed{1}$J
47k Ω → 47 × 10^3 → 473 ································ RD1/4PS $\boxed{4}\boxed{7}\boxed{3}$J
0.5 Ω → 0R5 ·· RN2H $\boxed{0}\boxed{R}\boxed{5}$K
1 Ω → 010 ·· RS1P $\boxed{0}\boxed{1}\boxed{0}$K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω → 562 × 10^1 → 5621 ································ RN1/4SR $\boxed{5}\boxed{6}\boxed{2}\boxed{1}$F

LIST OF ASSEMBLIES

Mark	No.	Description	Part No.
		CONTROL UNIT	
		BALANCE VR UNIT	
		FL UNIT	
		FUNCTION UNIT	
		BIAS UNIT	
		HEADPHONE UNIT	
		MAIN UNIT	
		VR UNIT	

CONTROL UNIT

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC651	MAIN CPU	PD4359A
	IC652		M6M80011AL
	IC661	CMOS LOGIC IC	TC4050BP
	IC671	IC	BA6109
	IC681	IC	BA6109
	IC703	COMPARATOR	BA10393N
	IC713	CMOS LOGIC IC	TC4050BP
	Q655, 656	DIGITAL TRANSISTOR	DTA114TS
	Q665	TRANSISTOR	DTC114ES
	Q667	TRANSISTOR	DTC124ES
	Q668	DIGITAL TRANSISTOR	DTC114TS
	Q672-674	TRANSISTOR	DTC114ES
	Q681-683	TRANSISTOR	2SA1309A
	Q687	TRANSISTOR	2SA1309A
	Q688	TRANSISTOR	DTC114ES
	Q705	DIGITAL TRANSISTOR	DTA114ES
	Q706	TRANSISTOR	2SC3311A
	Q707, 708	DIGITAL TRANSISTOR	DTC114TS
	Q709	DIGITAL TRANSISTOR	DTA114ES
	Q710	DIGITAL TRANSISTOR	DTC114TS
	Q715	TRANSISTOR	DTC114ES
	D651-653	DIODE	1SS254
⚠	D681	RECRIFIER DIODE	1SR35-100A

COILS/TRANSFORMERS

Mark	No.	Description	Part No.
	L671		RTF1068

CAPACITORS

Mark	No.	Description	Part No.
	C651	CERAMIC CAPACITOR	CKCYF103Z50
	C652	ELECTR. CAPACITOR	CEAS101M10
	C653	ELECTR. CAPACITOR	CEAS102M6R3
	C657, 658	AXIAL CAPACITOR	CKPUYB101K50
	C661	CERAMIC CAPACITOR	CKCYF103Z50
	C662	ELECTR. CAPACITOR	CEAS100M50
	C666	ELECTR. CAPACITOR	CEAS330M16
	C671	CERAMIC CAPACITOR	CKCYF103Z50
	C672	CERAMIC CAPACITOR	CKCYF473Z50
	C681	ELECTR. CAPACITOR	CEANP4R7M25
	C682	ELECTR. CAPACITOR	CEASR22M50
	C683	CERAMIC CAPACITOR	CKCYF103Z50
	C684	ELECTR. CAPACITOR	CEAS330M16
	C685	ELECTR. CAPACITOR	CEAS101M16
	C691	ELECTR. CAPACITOR	CEAS100M50
	C703	CERAMIC CAPACITOR	CKCYF473Z50
	C713	ELECTR. CAPACITOR	CEAS100M50
	C714-716	CERAMIC CAPACITOR	CKCYF103Z50
	C717	CERAMIC CAPACITOR	CKCYF103Z50

RESISTORS

Mark	No.	Description	Part No.
	R651-658	CARBONFILM RESISTOR	RD1/6PM□□□J
	R663(10k)		RCX1042
	R665-668	CARBONFILM RESISTOR	RD1/6PM□□□J
	R671-675	CARBONFILM RESISTOR	RD1/6PM□□□J
	R681	METAL OXIDE RESISTOR	RS1LMF□□□J
	R683-688	CARBONFILM RESISTOR	RD1/6PM□□□J
	R691-700	CARBONFILM RESISTOR	RD1/6PM□□□J
	R702-704	CARBONFILM RESISTOR	RD1/6PM□□□
	R705, 706	METALFILM RESISTOR	RN1/6PQ□□□□F
	R707	CARBONFILM RESISTOR	RD1/6PM□□□J
	R709-712	METALFILM RESISTOR	RN1/6PQ□□□□F
	R713(10k)		RCX1042
	R714, 715	CARBONFILM RESISTOR	RD1/6PM□□□J

OTHERS

Mark	No.	Description	Part No.
	CN200	CONECTOR(13P)	TXC-P13X-A1
	CN210	CONECTOR(12P)	TXC-P12X-A1
	JA71	JACK	RKN1014

Mark	No.	Description	Part No.
	JA72, 73	REMOTE CONTROL JACK	RKN1004
	X651	CERAMIC RESONATOR	VSS1014

BALANCE VR UNIT

RESISTORS

Mark	No.	Description	Part No.
	VR973(200k)		RCV1078

FUNCTION UNIT

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC781	LOGIC IC	BU2040
	D781	LED	SEL6410G
	D782		SEL6C10R
	D783	LED	SEL6910D
	D784		SEL6C10R
	D787	LED	SEL3910ALC05
	D789		SEL3910ALC05

SWITCHES

Mark	No.	Description	Part No.
	S781-793	SWITCH	RSG1030

CAPACITORS

Mark	No.	Description	Part No.
	C781	CERAMIC CAPACITOR	CKCYF103Z50
	C782	ELECTR. CAPACITOR	CEJA100M16
	C791, 792	AXIAL CAPACITOR	CKPUYB101K50

RESISTORS

Mark	No.	Description	Part No.
	R781-784	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R787	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R789	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R791, 792	CARBONFILM RESISTOR	RD1/6PM☐☐☐J

HEADPHONE UNIT

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC231	OP AMP	M5218AP
	Q231, 232	TRANSISTOR	2SD2144S

CAPACITORS

Mark	No.	Description	Part No.
	C231, 232	ELECTR. CAPACITOR	CEYA010M50
	C233, 234	ELECTR. CAPACITOR(100/25)	PCH1076
	C235, 236	AXIAL CAPACITOR	CKPUYB221K50

RESISTORS

Mark	No.	Description	Part No.
	R231-236	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R237, 238	CARBONFILM RESISTOR	RD1/4PM☐☐☐J
	R239-242	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	VR231	VARIABLE RESISTOR(20k)	PCS1002

OTHERS

Mark	No.	Description	Part No.
	JA231	JACK	RKN1002

FL UNIT

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC721		PD3198A
	D724-726	DIODE	1SS254
	D729	DIODE	1SS254
	D735-737	DIODE	1SS254
	D750	DIODE	1SS254

SWITCHES

Mark	No.	Description	Part No.
	S721-729	SWITCH	RSG1030
	S735		RSH1011

CAPACITORS

Mark	No.	Description	Part No.
	C721	CERAMIC CAPACITOR	CKCYF103Z50
	C722	ELECTR. CAPACITOR	CEAS100M50
	C723	CERAMIC CAPACITOR	CKCYF103Z50

RESISTORS

Mark	No.	Description	Part No.
	R721-727	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R729-732	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R735	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R736	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R741-764	CARBONFILM RESISTOR	RD1/6PM☐☐☐J

OTHERS

Mark	No.	Description	Part No.
	V721		RAW1096
	X721	CERAMIC RESONATOR	VSS1014

BIAS UNIT

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC521	DOLBY HX PRO IC	UPC1297CA
⚠	IC606	REGULATOR IC	NJM7812FA
⚠	IC607	REGULATOR IC	NJM7805FA
	Q504	TRANSISTOR	2SA1283
	Q505, 506	TRANSISTOR	2SC3243
	Q507	TRANSISTOR	2SC3311A
	Q508	TRANSISTOR	DTC124ES
	Q509	TRANSISTOR	2SC3311A
	Q510	TRANSISTOR	DTC124ES
	Q511	TRANSISTOR	DTC114ES
	Q512	DIGITAL TRANSISTOR	DTA114ES
	Q513	TRANSISTOR	2SA1309A
	Q543-546	TRANSISTOR	DTC114ES
	Q614	TRANSISTOR	2SA1309A
⚠	Q623	TRANSISTOR	2SA1283
	D501, 502	DIODE	1SS254
⚠	D601		S2VB20
⚠	D604	RECRIFIER DIODE	1SR35-100A
	D611-613	DIODE	1SS254
⚠	D621	RECRIFIER DIODE	1SR35-100A
	D622	ZENER DIODE	MTZJ6.8B
⚠	D623	ZENER DIODE	MTZJ24D

SWITCHES

Mark	No.	Description	Part No.
⚠	S641	SWITCH	RSA1001

COILS/TRANSFORMERS

Mark	No.	Description	Part No.
	L501		LFA121K
	L502		RTD1057
	L521, 522		RTD1011

CAPACITORS

Mark	No.	Description	Part No.
	C501	CERAMIC CAPACITOR	CKCYF473Z50
	C502	ELECTR. CAPACITOR	CEAS101M16
	C503	ELECTR. CAPACITOR	CEAS100M50
	C504, 505	ELECTR. CAPACITOR	CEAS330M16
	C507, 508	AUDIO FILM CAPACITOR	CFTXA332J50

Mark	No.	Description	Part No.
	C509	AUDIO FILM CAPACITOR	CFTXA223J50
	C510	AUDIO FILM CAPACITOR	CFTXA682J50
	C511	PORYPROPYLENE FILM C	CQPA752J100
	C515	ELECTR. CAPACITOR	CEAS220M25
	C516	ELECTR. CAPACITOR	CEAS100M50
	C517	ELECTR. CAPACITOR	CEAS4R7M50
	C521	CERAMIC CAPACITOR	CCCCH470J50
	C523, 524	CERAMIC CAPACITOR	CKCYF473Z50
	C525, 526	CERAMIC CAPACITOR (390P/500)	RCG1004
	C527, 528	CERAMIC CAPACITOR	CCCSL101K500
	C529-532	AUDIO FILM CAPACITOR	CFTXA223J50
	C533, 534	AXIAL CAPACITOR	CKPUYB821K50
	C535, 536	AUDIO FILM CAPACITOR	CFTXA103J50
	C537	ELECTR. CAPACITOR	CEAS330M16
	C539, 540	CERAMIC CAPACITOR	CKCYF103Z50
	C601-603	CERAMIC CAPACITOR	CKCYF473Z50
	C605	ELECTR. CAPACITOR (6800 µF/25)	RCH1032
	C607	ELECTR. CAPACITOR	CEAS682M16
	C608	ELECTR. CAPACITOR	CEAS102M6R3
	C611	ELECTR. CAPACITOR	CEAS4R7M50
	C614	CERAMIC CAPACITOR	CKCYF103Z50
	C621	CERAMIC CAPACITOR	CKCYF473Z50
	C622	ELECTR. CAPACITOR	CEAS101M50
	C623	CERAMIC CAPACITOR	CKCYF473Z50
	C624	ELECTR. CAPACITOR	CEAS101M25
	C625	CERAMIC CAPACITOR	CKCYF473Z50
	C626	ELECTR. CAPACITOR	CEAS101M16
	C627, 628	CERAMIC CAPACITOR	CKCYF473Z50
⚠	C641	CAPACITOR (0.01/AC400)	VCG-044

RESISTORS

Mark	No.	Description	Part No.
	R505-508	CARBONFILM RESISTOR	RD1/6PM□□□J
	R509, 510	CARBONFILM RESISTOR	RD1/2PMF□□□J
	R511	CARBONFILM RESISTOR	RD1/2LF□□□J
	R512-514	CARBONFILM RESISTOR	RD1/6PM□□□J
	R515, 516	METALFILM RESISTOR	RN1/6PQ□□□□F
	R517-519	CARBONFILM RESISTOR	RD1/6PM□□□J
	R523-525	CARBONFILM RESISTOR	RD1/6PM□□□J
	R531	CARBONFILM RESISTOR	RD1/6PM□□□J
	R533-536	CARBONFILM RESISTOR	RD1/6PM□□□J
	R539-542	CARBONFILM RESISTOR	RD1/6PM□□□J
	R611-613	CARBONFILM RESISTOR	RD1/6PM□□□J
⚠	R621	FUSLIBLE RESISTOR	RFA1/4L□□□J
	R622	CARBONFILM RESISTOR	RD1/2PMF□□□J
	R623	METAL OXIDE RESISTOR	RS1LMF□□□J
	VR545, 546	VR(15k)	RCP1090
	VR541-544	(3.3k)	RCP1089

MAIN UNIT

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC101	OP-AMP-IC	M5220P
	IC151	DOLBY-B, C IC	CX20188
	IC251	IC	BA335
	IC281	IC	BA15218N
	IC282		BA6138
	IC301	OP-AMP, IC	M5218AP
	IC331	OP-AMP IC	BA15218
	IC351	DOLBY-B, C IC	CX20188
	IC401, 402	OP AMP	M5218AP
⚠	IC551, 552	IC PROTECTOR	ICP-N20
	IC561, 562	OP-AMP IC	NJM5532DD
⚠	IC571	REGULATOR IC	NJM78M12FA
⚠	IC572	REGULATOR IC	NJM79M12FA
	Q104	DIGITAL TRANSISTOR	DTC114TS
	Q202	DIGITAL TRANSISTOR	DTC114TS
	Q203, 204	TRANSISTOR	2SD2144S
	Q282	TRANSISTOR	DTC114ES
	Q283, 284	TRANSISTOR	DTC124ES
	Q301, 302	TRANSISTOR	2SD2144S
	Q303	DIGITAL TRANSISTOR	DTC114TS
	Q331-334	TRANSISTOR	DTC114ES
	Q384	DIGITAL TRANSISTOR	DTA114ES
	Q385, 386	TRANSISTOR	DTC114ES
	Q401-408	DIGITAL TRANSISTOR	DTC114TS
	Q419-428	DIGITAL TRANSISTOR	DTC114TS
	Q433, 434	TRANSISTOR	2SD2144S
	Q439-442	DIGITAL TRANSISTOR	DTC114TS
	Q455, 456	DIGITAL TRANSISTOR	DTC114TS
	Q459-462	DIGITAL TRANSISTOR	DTC114TS
	Q471-476	DIGITAL TRANSISTOR	DTA114ES
	Q478-482	DIGITAL TRANSISTOR	DTA114ES
⚠	Q561	TRANSISTOR	2SD1266
⚠	Q562	TRANSISTOR	2SB941
⚠	D551-554		EL1Z-LFF5
⚠	D573, 574	ZENER DIODE	HZ5BLL

SWITCHES

Mark	No.	Description	Part No.
	S381		RSH1040

RELAYS

Mark	No.	Description	Part No.
	RY202		RSR1026

COILS/TRANSFORMERS

Mark	No.	Description	Part No.
	L151, 152	BIAS TRAP(210KHZ)	RTF1060
	L401, 402	COIL	RTF1022
	L403, 404		RTF1017
	F301, 302	FILTER	RTF1062

CAPACITORS

Mark	No.	Description	Part No.
	C101, 102	PL. STYRENE CAPACITOR	CQSF271J50
	C103, 104	AUDIO FILM CAPACITOR	CFTXA563J50
	C105, 106	ELECTR. CAPACITOR (10/25)	RCH1037
	C109, 110	AUDIO FILM CAPACITOR	CFTXA102J50
	C111, 112	AUDIO FILM CAPACITOR	CFTXA273J50
	C115, 116	ELECTR. CAPACITOR (100/25)	PCH1076
	C151-154	AUDIO FILM CAPACITOR	CFTXA222J50
	C155, 156	AUDIO FILM CAPACITOR	CFTXA392J50
	C157, 158	AUDIO FILM CAPACITOR	CEASR47M50
	C159, 160	AUDIO FILM CAPACITOR	CEASR15M50
	C161, 162	AUDIO FILM CAPACITOR	CFTXA153J50
	C163, 164	ELECTR. CAPACITOR	CEAS010M50
	C165, 166	AUDIO FILM CAPACITOR	CEASR22M50
	C167, 168	AUDIO FILM CAPACITOR	CFTXA683J50

Mark	No.	Description	Part No.
	C169, 170	AUDIO FILM CAPACITOR	CFTXA563J50
	C171, 172	ELECTR. CAPACITOR	CEAS010M50
	C173, 174		CFTXA562J50
	C175, 176	AUDIO FILM CAPACITOR	CFTXA103J50
	C177, 178	ELECTR. CAPACITOR(10/25)	RCH1037
	C179, 180	ELECTR. CAPACITOR(100/25)	PCH1076
	C211	ELECTR. CAPACITOR	CEAS010M50
	C251, 252	ELECTR. CAPACITOR	CEASR10M50
	C253	AUDIO FILM CAPACITOR	CFTXA473J50
	C254, 255	ELECTR. CAPACITOR	CEASR10M50
	C256	ELECTR. CAPACITOR	CEASR47M50
	C257	AUDIO FILM CAPACITOR	CFTXA473J50
	C281, 282	AUDIO FILM CAPACITOR	CFTXA563J50
	C283, 284	AXIAL CERAMIC C.	CCPUSL470J50
	C287-290	ELECTR. CAPACITOR	CEAS4R7M50
	C300	CERAMIC CAPACITOR	CKCYF473Z50
	C301, 302	ELECTR. CAPACITOR	CEYA010M50
	C303, 304	AXIAL CAPACITOR	CKPUYB221K50
	C331	AUDIO FILM CAPACITOR	CFTXA683J50
	C332	MYLAR FILM CAPACITOR	CQMA104J50
	C333	MYLAR FILM CAPACITOR	CQMA123J50
	C334	ELECTR. CAPACITOR	CEAS010M50
	C335	AUDIO FILM CAPACITOR	CFTXA682J50
	C336	MYLAR FILM CAPACITOR	CQMA123J50
	C337	MYLAR FILM CAPACITOR	CQMA182J50
	C353, 354	ELECTR. CAPACITOR	CEYA100M50
	C355-358	AUDIO FILM CAPACITOR	CFTXA222J50
	C359, 360	AUDIO FILM CAPACITOR	CFTXA392J50
	C361, 362	AUDIO FILM CAPACITOR	CEASR47M50
	C363, 364	AUDIO FILM CAPACITOR	CEASR15M50
	C365, 366	AUDIO FILM CAPACITOR	CFTXA153J50
	C367, 368	ELECTR. CAPACITOR	CEAS010M50
	C369, 370	AUDIO FILM CAPACITOR	CEASR22M50
	C371, 372	AUDIO FILM CAPACITOR	CFTXA683J50
	C373, 374	AUDIO FILM CAPACITOR	CFTXA563J50
	C375, 376	ELECTR. CAPACITOR	CEAS010M50
	C377, 378		CFTXA562J50
	C379, 380	AUDIO FILM CAPACITOR	CFTXA103J50
	C381-384	ELECTR. CAPACITOR(10/25)	RCH1037
	C385, 386	ELECTR. CAPACITOR(100/25)	PCH1076
	C387	ELECTR. CAPACITOR	CEAS330M16
	C401, 402	AUDIO FILM CAPACITOR	CFTXA103J50
	C403, 404	AUDIO FILM CAPACITOR	CFTXA472J50
	C405, 406		CFTXA272J50
	C407, 408	AUDIO FILM CAPACITOR	CFTXA122J50
	C413, 414	AUDIO FILM CAPACITOR	CFTXA103J50
	C445, 446		CEYA010M50
	C437, 438		CFTXA681J50
	C443, 444	AUDIO FILM CAPACITOR	CFTXA392J50
	C447, 448	ELECTR. CAPACITOR(100/25)	PCH1076
	C451, 452	AUDIO FILM CAPACITOR	CFTXA274J50
	C453, 454	ELECTR. CAPACITOR	CEYA100M50
	C455, 456	AUDIO FILM CAPACITOR	CFTXA103J50
	C457, 458		CFTXA562J50
	C459, 460	AUDIO FILM CAPACITOR	CFTXA472J50
	C461, 462	AUDIO FILM CAPACITOR	CFTXA332J50
	C463	ELECTR. CAPACITOR	CEAS010M50
	C467, 468	PL. STYRENE CAPACITOR	CQSA102J50
	C471	ELECTR. CAPACITOR	CEAS100M50
	C472-476	CERAMIC CAPACITOR	CKPUYY103N16
	C465, 466		CFTXA222J50
	C551-554	CERAMIC CAPACITOR	CKCYF473Z50
	C555, 556	ELECTR. CAPACITOR (2200/25)	RCH1036
	C557, 558	AUDIO FILM CAPACITOR	CFTXA563J50
	C561, 562	ELECTR. CAPACITOR	CEYA100M50
	C563, 564	AUDIO FILM CAPACITOR	CFTXA563J50
	C565, 566	ELECTR. CAPACITOR(100/25)	PCH1076
	C571, 572	ELECTR. CAPACITOR	CEYA010M50
	C573, 574	ELECTR. CAPACITOR	CEYA330M25

RESISTORS

Mark	No.	Description	Part No.
	R101, 102	CARBONFILM RESISTOR	RD1/4PM☐☐☐J
	R109-122	CARBONFILM RESISTOR	RD1/4PM☐☐☐J
	R150-152	CARBONFILM RESISTOR	RD1/4PM☐☐☐J
	R153-170	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R201-204	CARBONFILM RESISTOR	RD1/4PM☐☐☐J
	R205-208	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R211	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R251-255	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R281-284	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R286-296	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R301, 302	CARBONFILM RESISTOR	RD1/4PM☐☐☐J
	R305-312	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R313, 314	CARBONFILM RESISTOR	RD1/4PM☐☐☐J
	R331-342	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R350	CARBONFILM RESISTOR	RD1/4PM☐☐☐J
	R351, 352	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R353-356	CARBONFILM RESISTOR	RD1/4PM☐☐☐J
	R357-376	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R381-383	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R385, 386	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R401-408	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R409, 410(100k)		RCN1043
	R411, 412	CARBONFILM RESISTOR	RDR1/4PM☐☐☐J
	R413-416	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R417, 418	CARBONFILM RESISTOR	RD1/4PM☐☐☐J
	R419-428	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R431, 432	CARBONFILM RESISTOR	RD1/4PM☐☐☐J
	R433, 434	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R437-452	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R453, 454	CARBONFILM RESISTOR	RD1/4PM☐☐☐J
	R455-463	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R471	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R561-564	CARBONFILM RESISTOR	RD1/4PM☐☐☐J
	R571, 572	CARBONFILM RESISTOR	RD1/4PM☐☐☐J
	R573, 574	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	VR151, 152	VARIABLE RESISTOR(4. 7k)	RCP1020
	VR281, 282	VR(22k)	RCP1046

Mark	No.	Description	Part No.
	VR331, 332	VR(10k)	RCP1045
	VR333	VR(47k)	RCP1047
	VR401, 402	VARIABLE RESISTOR(20k)	RCP1046
OTHERS			
		SCREW	IBZ30P100FCC
	CN20		TXC-P13P-A1
	CN21		TXC-P12P-A1
	JA201	JACK	RKB1020
	JA301	JACK	RKB1020

VR UNIT

RESISTORS

Mark	No.	Description	Part No.
	VR972	VR(20k)	RCV1085

• ADJUSTMENT

RECORDING SECTION

Bias Oscillator Adjustment

No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1.	REC/ PLAY	Load the STD-610 test tape with no input signal.	Deck	L502	TP. 11	106 kHz ± 300 Hz	

• REGLAGE

SECTION D'ENREGISTREMENT

Réglage de l'oscillateur de polarisation

No.	Mode	Signal d'entrée et bande d'essai	Points de réglage		Points de mesure	Valeur de réglage	Remarques
1.	REC/ PLAY	Charger la bande d' essai STD-610 et n'introduire aucun signal.	Platine	L502	TP. 11	106 kHz ± 300 Hz	

• AJUSTE

SECCIÓN DE GRABACIÓN

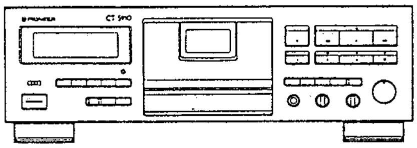
Ajuste del oscilador de polarización

N.°	Modo	Señal de entrada y cinta de prueba	Punto de ajuste		Punto de medición	Valor de ajuste	Comentarios
1.	REC/ PLAY	Introduzca la cinta de prueba STD-610 sin señal de entrada.	Platina	L502	TP. 11	106 kHz ± 300 Hz	

PIONEER
The Art of Entertainment

3754

Service Manual



ORDER NO.
ARP2482

STEREO CASSETTE DECK

CT-S910

- This manual is applicable to HEM type.
- Ce manuel pour le service comprend les explications de réglage en français.
- Este manual de servicio trata del método ajuste escrito en español.

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PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
PIONEER ELECTRONICS SERVICE INC. P.O. Box 1760, Long Beach, California 90801 U.S.A.
PIONEER ELECTRONICS OF CANADA, INC. 300 Allstate Parkway Markham, Ontario L3R 0P2 Canada
PIONEER ELECTRONIC [EUROPE] N.V. Haven 1087 Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia TEL: [03] 580-9911

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SN APR. 1992 Printed in Japan

1. EXPLODED VIEWS AND PARTS LIST

NOTES:

- The parts with an encircled number are generally unavailable because they are not in our Master Spare Parts List.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by " ⊙ " are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

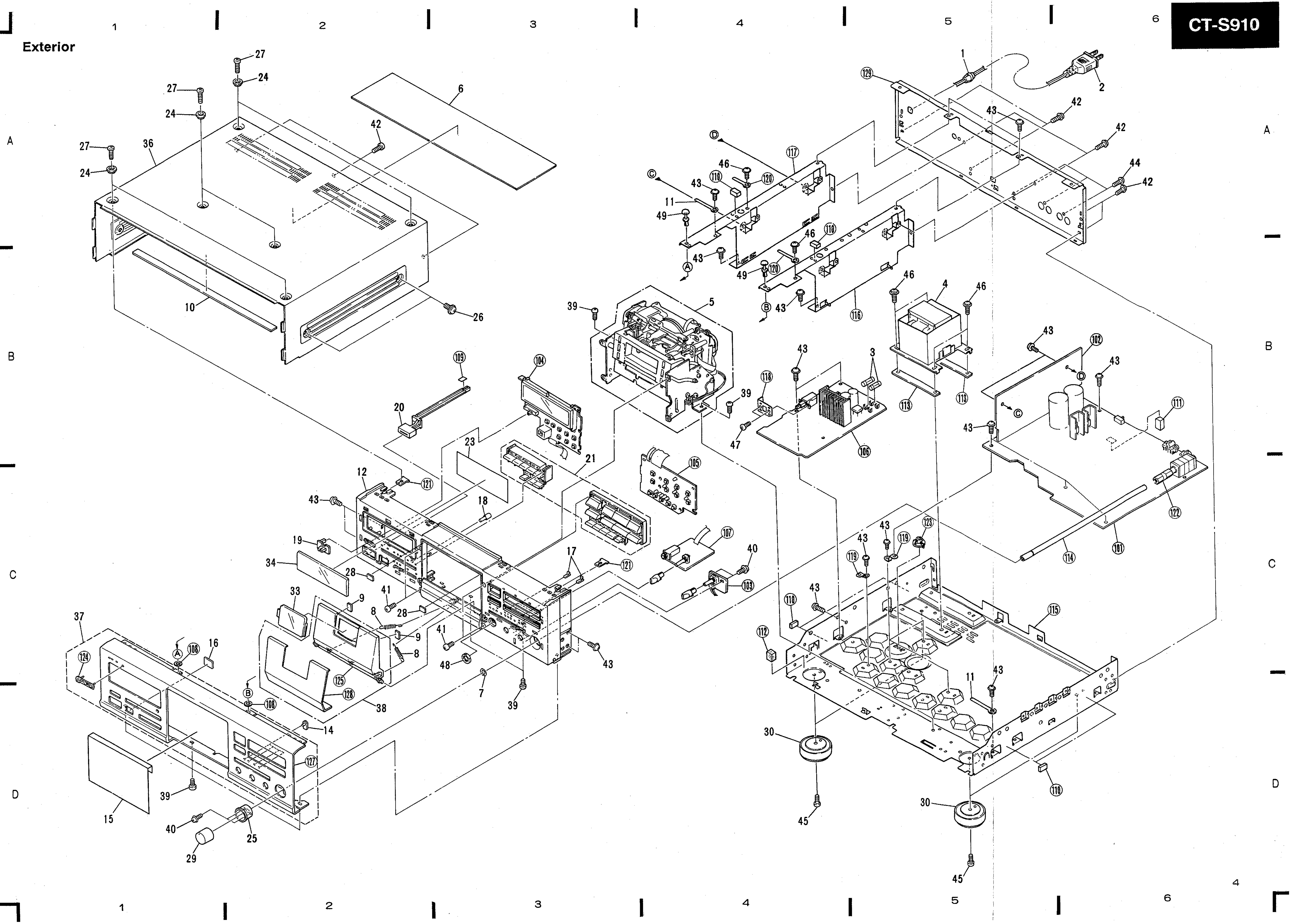
1.1 EXTERIOR

Parts List

Mark	No.	Description	Part No.
⚠	1	Strain relief	CM – 22B
⚠	2	AC power cord	ADG1036
⚠	3	FU601, FU602 Fuse (T2A)	REK – 103
⚠	4	T1 Power transformer	RTT1201
⊙	5	Mechanism unit	RYM1152
	6	Absorb plate (B)	PNB1109
	7	Washer	RBF1019
	8	Door spring	RBH1306
	9	Door cushion	REB1174
	10	Protector	RED1020
	11	Cord clamper	RNH – 184
	12	Panel stay	RNT1139
	13	······	
	14	LED lens	AMR1160
	15	Sheet	RHC1028
	16	······	
	17	Lens S	PNW1893
	18	Counter reset knob	RAA1009
	19	Slide SW knob	RAC1562
	20	Power button	RAC1703
	21	Function knob	RAC1704
	22	Balance knob	RAC1705
	23	FL filter	RAH1936
	24	······	
	25	VR ring	RAT1011
	26	Screw	FBT40P080FZK
	27	Screw	BBZ40P080FZK
	28	Door sheet	REB1191
	29	VR knob assembly (A)	RXA1472
	30	Foot assembly	AMR1159
	31	······	
	32	······	
	33	Door lens	RAH1927
	34	FL lens	RAH2019
	35	······	
	36	Bonnet	RXX1505
	37	Front panel assembly	RXX1510
	38	Door assembly	RXX1514
	39	Screw	BBT30P100FZK
	40	Screw	BBZ26P080FZK

Mark	No.	Description	Part No.
	41	Screw	BBZ30P080FZK
	42	Screw	IBZ30P060FCC
	43	Screw	IBZ30P080FCC
	44	Screw	IBZ30P100FCC
	45	Screw	IBZ30P150FCC
	46	Screw	IBZ40P080FCC
	47	Screw	PMA30P060FCU
	48	Jack nut	RBN – 006
	49	Rivet	RBM – 003
	101	MAIN unit	RWX1048
	102	CONTROL unit	RWZ2450
	103	BALANCE VR unit	RWZ2451
	104	FL unit	RWZ2656
	105	FUNCTION unit	RWZ2453
	106	BIAS unit	RWZ2657
	107	HEADPHONE unit	RWZ2455
	108	Washer	RBF1017
	109	Acetate tape	REH1020
	110	Rubber spacer (A)	REB1057
	111	Rubber spacer	REB1192
	112	Rubber spacer	REB1187
	113	Transformer sheet	REE1004
	114	VR shaft	RLA1169
	115	Main chassis	RNB1059
	116	Center stay	RNC1058
	117	Center stay	RNC1059
	118	PS holder	RNE1185
	119	PCB base	RNE1221
	120	Binder	DNF1128
	121	Bonnet bracket	RNE1470
	122	Joint	RNK1333
	123	PCB stud	RNL – 792
	124	Name plate	PAN1035
	125	Door	RNK1820
	126	······	
	127	Front panel	RAH2033
	128	Door panel	RAH2034
	129	Rear panel	RNA1564

Exterior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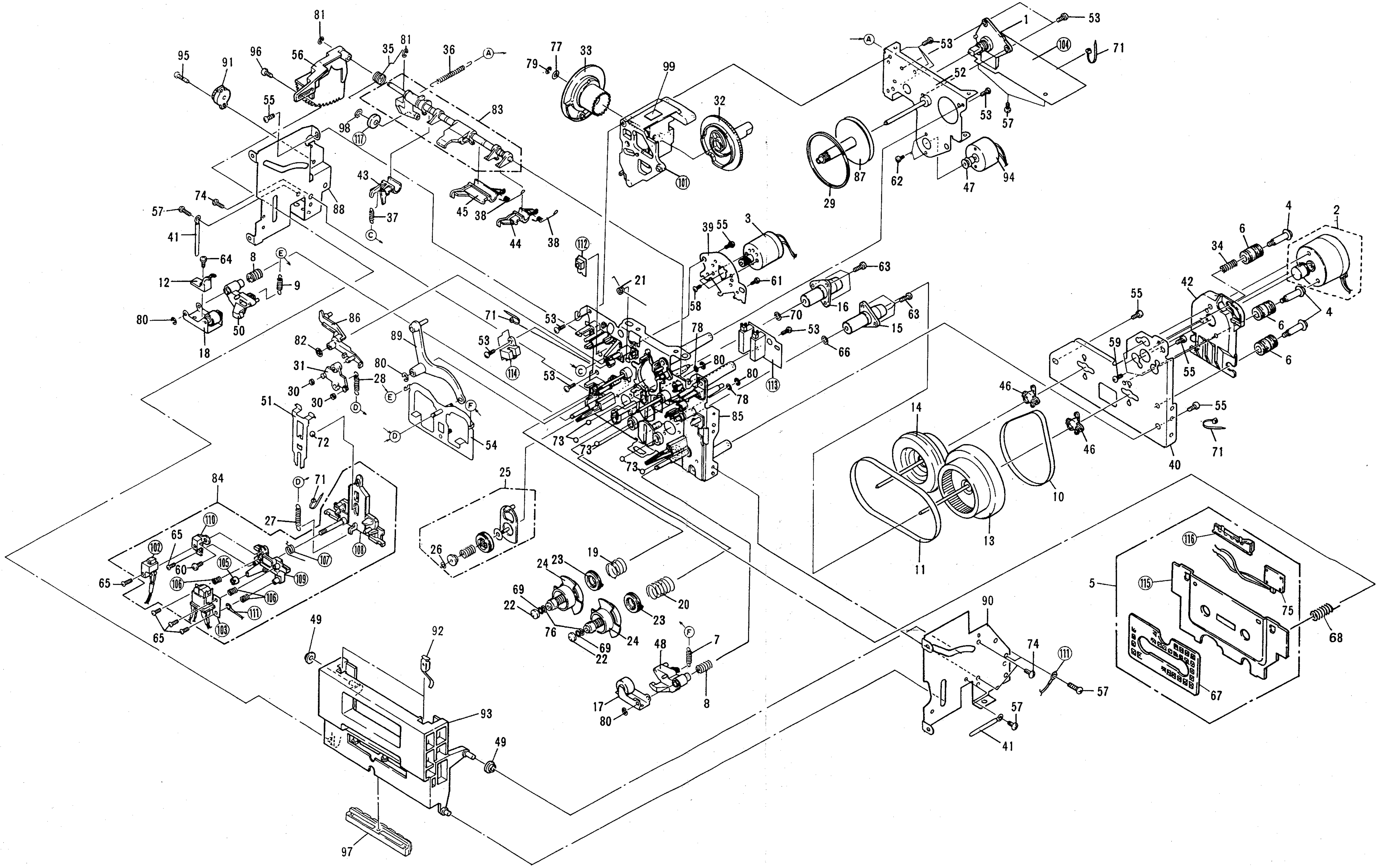
1.2 MECHANISM UNIT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82
31
30
30
28
80
Ⓔ
Ⓓ
89
Ⓕ
54
Ⓓ
51
72
4
2
34
6
42
55
6
4
6
59
55
55
71
40
46
46
14
10
13
11
84
110
Ⓓ
71
27
65
102
60
105
106
106
111
103
65
65
107
108
109
25
26
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24
23
20
69
22
76
23
24
69
22
Ⓕ
7
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111
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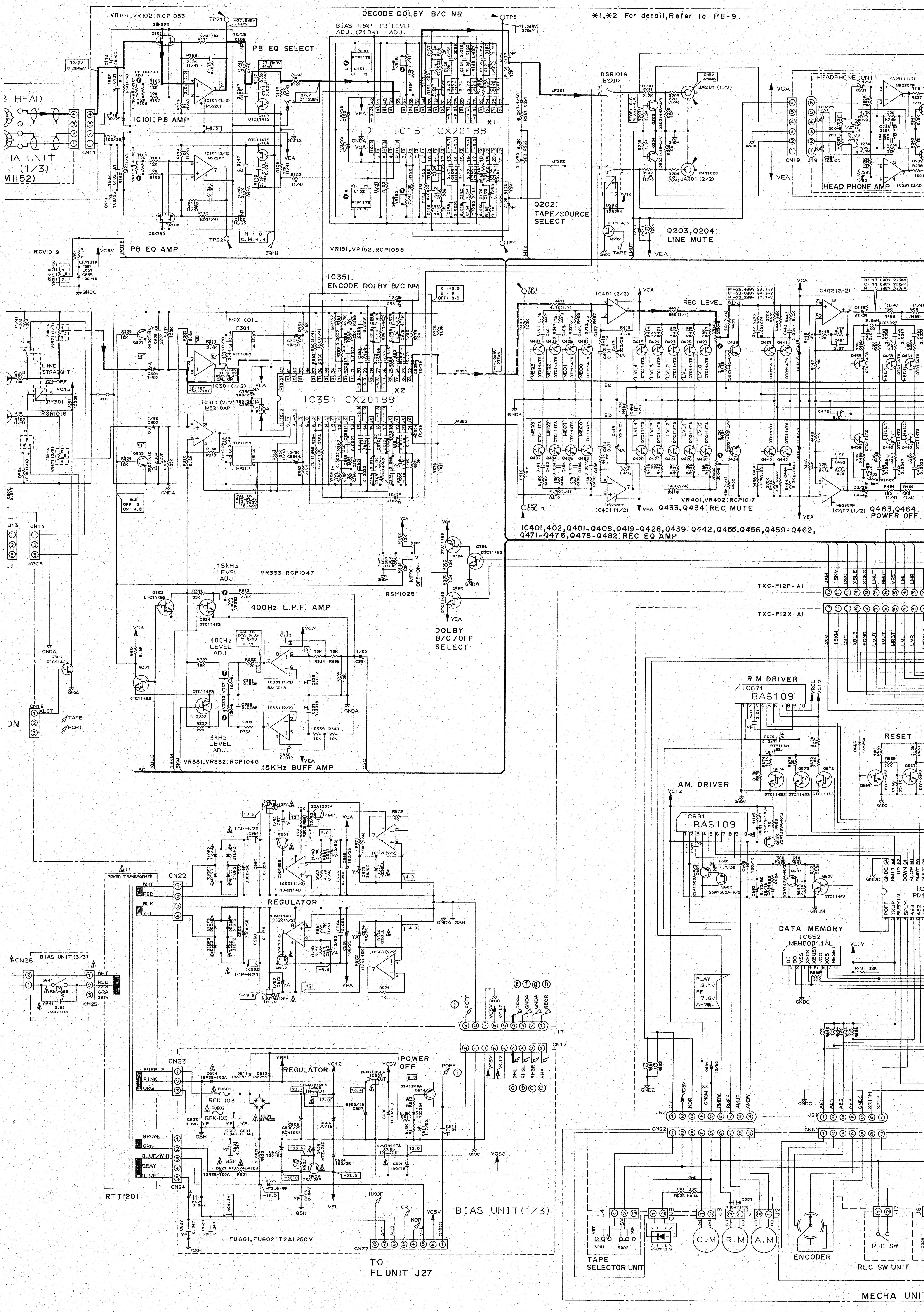
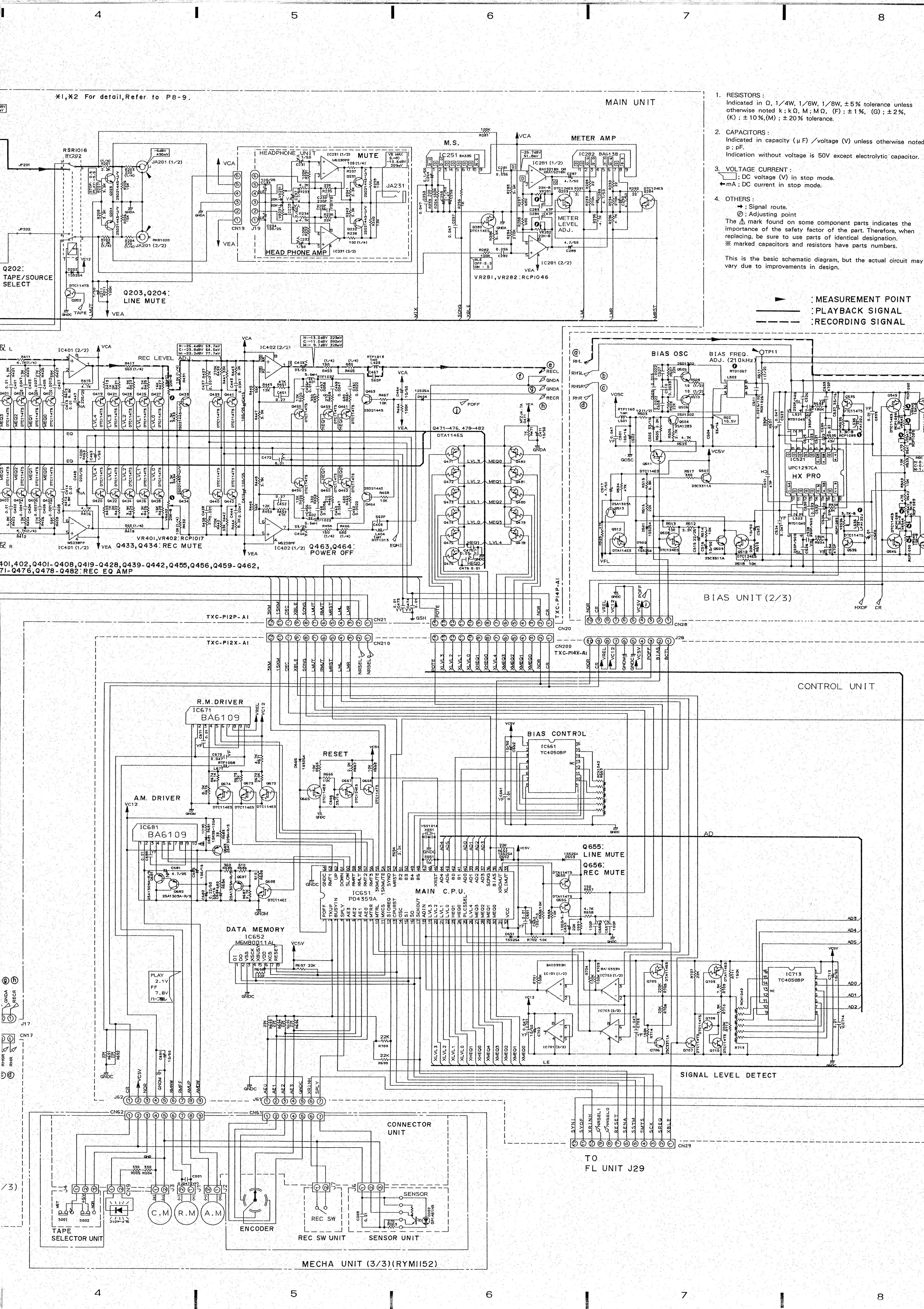
67

MATIC AND PCB CONNECTIONS DIAGRAMS



*1,*2 For detail,Refer to P8-9.

DECODE DOLBY B/C NR
PB EQ SELECT
BIAS TRAP ADJ. (210K)
PB LEVEL ADJ.
IC101:PB AMP
PB EQ AMP
VR101,VR102:RCP1053
VR151,VR152:RCP1088
IC151 CX20188 *1
Q202: TAPE/SOURCE SELECT
Q203,Q204: LINE MUTE
HEADPHONE UNIT
HEAD PHONE AMP
IC351: ENCODE DOLBY B/C NR
IC351 CX20188 *2
MPX COIL
LINE STRAIGHT
DOLBY B/C/OFF SELECT
REC LEVEL ADJ.
IC401,402,Q401-Q408,Q419-Q428,Q439-Q442,Q455,Q456,Q459-Q462,Q471-Q476,Q478-Q482:REC EQ AMP
VR401,VR402:RCP1017
Q433,Q434:REC MUTE
Q463,Q464: POWER OFF
15kHz LEVEL ADJ.
VR333:RCP1047
400Hz L.P.F. AMP
400Hz LEVEL ADJ.
3kHz LEVEL ADJ.
VR331,VR332:RCP1045
15KHz BUFF AMP
RSH1025
TXC-P12P-A1
TXC-P12X-A1
R.M.DRIVER
IC671 BA6109
A.M. DRIVER
IC681 BA6109
RESET
DATA MEMORY
IC652 M6M80011AL
REGULATOR
POWER TRANSFORMER
RTT1201
BIAS UNIT(3/3)
POWER OFF
REGULATOR
BIAS UNIT(1/3)
FU601,FU602:T2AL250V
TO FL UNIT J27
TAPE SELECTOR UNIT
C.M
R.M
A.M
ENCODER
REC SW UNIT
MECHA UNIT
HEAD
HA UNIT (1/3)



※1,※2 For detail,Refer to P8-9.
MAIN UNIT
Q202: TAPE/SOURCE SELECT
Q203,Q204: LINE MUTE
HEADPHONE UNIT
MUTE
HEAD PHONE AMP
M.S.
METER AMP
METER LEVEL ADJ.
VR281,VR282:RCP1046
REC LEVEL ADJ.
VR401,VR402:RCP1017
Q433,Q434:REC MUTE
Q463,Q464: POWER OFF
Q401,402,Q401-Q408,Q419-Q428,Q439-Q442,Q455,Q456,Q459-Q462,
Q471-Q476,Q478-Q482:REC EQ AMP
Q471-476, 478-482 DTA114ES
BIAS OSC
BIAS FREQ. ADJ. (210kHz)
HX PRO
UPC1297CA
BIAS UNIT(2/3)
TXC-P12P-AI
TXC-P12X-AI
TXC-P14P-AI
TXC-P14X-AI
CN21
CN210
CN20
CN200
CN28
J28
CONTROL UNIT
R.M.DRIVER
IC671 BA6109
A.M. DRIVER
IC681 BA6109
RESET
BIAS CONTROL
IC661 TC4050BP
MAIN C.P.U.
IC651 PD4359A
DATA MEMORY
IC652 M6M80011AL
Q655: LINE MUTE
Q656: REC MUTE
SIGNAL LEVEL DETECT
IC713 TC4050BP
AD
TO FL UNIT J29
CN29
J52
J61
CN62
CN61
CONNECTOR UNIT
TAPE SELECTOR UNIT
ENCODER
REC SW UNIT
SENSOR UNIT
MECHA UNIT (3/3)(RYM1152)
C.M
R.M
A.M
PLAY 2.1V FF 7.8V

1. RESISTORS :
Indicated in Ω, 1/4W, 1/6W, 1/8W, ± 5 % tolerance unless otherwise noted k ; kΩ, M ; MΩ, (F) ; ± 1 %, (G) ; ± 2 %, (K) ; ± 10 %,(M) ; ± 20 % tolerance.

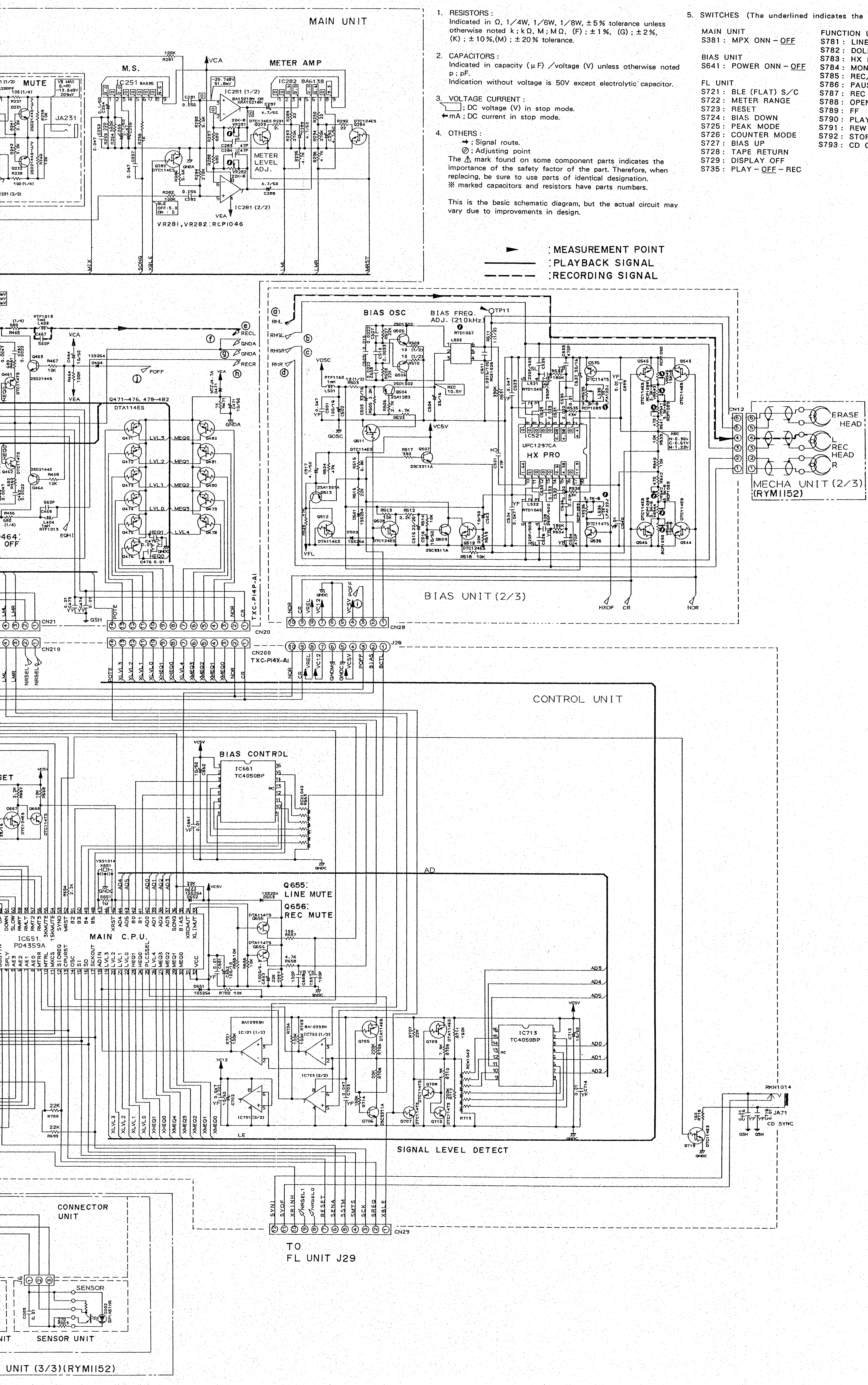
2. CAPACITORS :
Indicated in capacity (μF) /voltage (V) unless otherwise noted p ; pF.
Indication without voltage is 50V except electrolytic capacitor.

3. VOLTAGE CURRENT :
▭ ; DC voltage (V) in stop mode.
← mA ; DC current in stop mode.

4. OTHERS :
→ ; Signal route.
⊘ ; Adjusting point
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
※ marked capacitors and resistors have parts numbers.

This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

► :MEASUREMENT POINT
——— :PLAYBACK SIGNAL
– – – – :RECORDING SIGNAL


6
7
8
9
MAIN UNIT
M.S.
METER AMP
MUTE
JA231
IC251 BA3856
IC281 (1/2)
IC281 (2/2)
IC282 BA6138
METER LEVEL ADJ.
VR281,VR282:RCP1046
MIX
SONG
XBLE
LML
LMR
MRST
VCA
VEA
BIAS OSC
BIAS FREQ. ADJ. (210kHz)
TP11
IC521
UPC1297CA
HX PRO
BIAS UNIT (2/3)
MECHA UNIT (2/3)
(RYM1152)
ERASE HEAD
REC HEAD
L
R
CN12
CN20
CN21
CN28
CN29
CN200
CN210
J28
TXC-P14P-A1
TXC-P14X-A1
Q471~476, 478~482
DTA114ES
CONTROL UNIT
BIAS CONTROL
IC661
TC4050BP
Q655: LINE MUTE
Q656: REC MUTE
MAIN C.P.U.
IC651
PD4359A
IC713
TC4050BP
SIGNAL LEVEL DETECT
TO
FL UNIT J29
RKN1014
JA71
CD SYNC
CONNECTOR UNIT
SENSOR UNIT
SENSOR
UNIT (3/3)(RYM1152)

1. RESISTORS :
Indicated in Ω, 1/4W, 1/6W, 1/8W, ±5% tolerance unless otherwise noted k ; kΩ, M ; MΩ, (F) ; ±1%, (G) ; ±2%, (K) ; ±10%,(M) ; ±20% tolerance.

2. CAPACITORS :
Indicated in capacity (μF) /voltage (V) unless otherwise noted p ; pF.
Indication without voltage is 50V except electrolytic capacitor.

3. VOLTAGE CURRENT :
▭ ; DC voltage (V) in stop mode.
← mA ; DC current in stop mode.

4. OTHERS :
→ ; Signal route.
⊘ ; Adjusting point
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
※ marked capacitors and resistors have parts numbers.

This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

► : MEASUREMENT POINT
—— : PLAYBACK SIGNAL
– – – : RECORDING SIGNAL

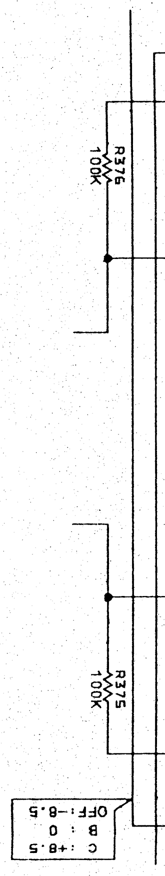
5. SWITCHES (The underlined indicates the switch

MAIN UNIT
S381 : MPX ONN – OFF

BIAS UNIT
S641 : POWER ONN – OFF

FL UNIT
S721 : BLE (FLAT) S/C
S722 : METER RANGE
S723 : RESET
S724 : BIAS DOWN
S725 : PEAK MODE
S726 : COUNTER MODE
S727 : BIAS UP
S728 : TAPE RETURN
S729 : DISPLAY OFF
S735 : PLAY – OFF – REC

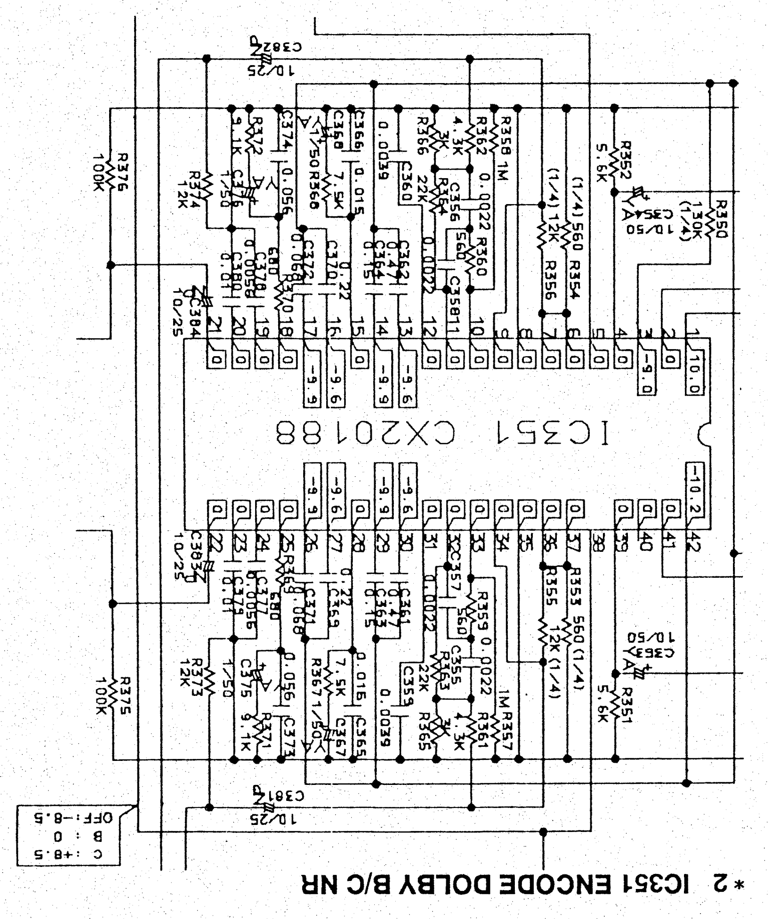
FUNCTION UNIT
S781 : LINE STRAI
S782 : DOLBY – NR
S783 : HX PRO
S784 : MONITOR
S785 : REC/MUTE
S786 : PAUSE
S787 : REC
S788 : OPEN/CLOS
S789 : FF
S790 : PLAY
S791 : REW
S792 : STOP
S793 : CD CYNC



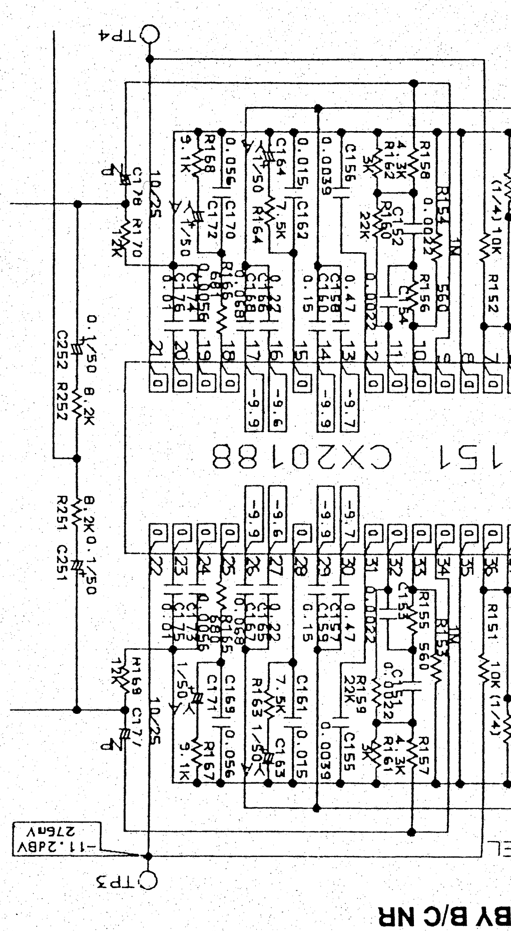
Parts List

Mark	No.	Description	Part No.
	1	Rotary encoder	RSX1004
	2	Capstan motor assembly	RXM1016
	3	Reel motor assembly	RXM1018
	4	Step screw	RBA1074
	5	Cassette plate assembly	RXX1064
	6	Insulator	REB1099
	7	Pinch spring	RBL – 028
	8	Pinch thrust spring	RBL – 030
	9	Sub – pinch spring	RBL – 098
	10	Capstan belt	REB – 501
	11	Capstan belt (A)	REB – 509
	12	Tape guide	RNK1823
	13	Flywheel assembly	RXA1374
	14	Sub – flywheel assembly	RXA1375
	15	Metal holder assembly(A)	RXA1426
	16	Metal holder assembly(B)	RXA1343
	17	Pinch roller arm (R) assembly	RXB – 876
	18	Pinch roller arm (A) assembly	RXB – 877
	19	BT spring (A)	RBL – 031
	20	BT spring (B)	RBL – 032
	21	Idler pressure spring	RBL – 033
	22	Reel shaft cap (B)	RNK – 815
	23	BT disk assembly	RXB – 751
	24	Reel base assembly	RXB – 874
	25	Take – up idler assembly	RXB – 875
	26	Washer	RBF – 065
	27	Head base spring	RBL – 037
	28	Brake spring	RBL – 038
	29	Drive belt	REB1182
	30	Brake shoe	REB – 511
	31	Brake	RNL – 723
	32	Cam gear	RNK1640
	33	Side cam gear	RNK1765
	34	Insulator spring	RBH1226
	35	Eject spring	RBL – 039
	36	Half set arm spring	RBL – 040
	37	REC functioning spring	RBL – 041
	38	Detection functioning spring	RBL – 042
	39	Reel motor mounting plate	RNE1169
	40	Flywheel holder	RNH – 304
	41	Cord clamper	RNH – 184
	42	Motor bracket	RNK1497
	43	REC detector arm	RNL – 733
	44	Chrom detector arm	RNL – 734
	45	Metal detector arm	RNL – 735
	46	Thrust holder	RNL – 743
	47	Motor pulley	PNW1634
	48	Pressure arm (R)	RNL – 725
	49	Collar	RNL – 742
	50	Pressure arm (L)	RNL – 726
	51	Head base set spring	RBL – 026
	52	Gear chassis assembly	RXA1171
	53	Screw	BBZ26P080FZK
	54	Pinch base assembly	RXB – 878
	55	Screw	BBZ30P080FZK
	56	Eject lever	RNK1763
	57	Screw	BCZ30P060FMC
	58	Screw	BMZ26P030FZK
	59	Screw	BMZ26P040FMC
	60	Screw	BMZ26P060FZK
	61	Screw	BMZ30P080FZK
	62	Screw	PMZ30P040FMC
	63	Screw	PMA26P050FZK
	64	Screw	PMA26P060FZK
	65	Screw	PMZ20P080FZK
	66	Washer	RBF – 030
	67	Stabilizer (B)	REB1038
	68	Cassette plate spring	RBL – 059
	69	Washer	RBF – 076
	70	Washer	RBF1040
	71	Binder	REC – 371
	72	Steel ball (3mm)	REF – 022
	73	Steel ball (4mm)	REF – 023
	74	Screw	VCT30P060FZK
	75	LED (D3)	SLF – 401C
	76	Washer	WA21D040D013
	77	Washer	WA26N070W040
	78	Washer	WA32D080D050
	79	E ring	YE20FUC
	80	E ring	YE25FUC
	81	E ring	YE30FUC
	82	Snapring	YS24FBT
	83	Shift shaft assembly	RXB – 885
	84	Head base assembly	RXX1443
	85	Mechanism chassis assembly	RXA1366
	86	Brake lever	RNK1638
	87	Second pulley assembly	RXA1350
	88	Door frame (L)	RNE1475
	89	Pinch lever assembly	RXA1360
	90	Door frame (R)	RNE1476
	91	Damper assembly	VXA1153
	92	Half pressure spring	RBK1004
	93	Door pocket	RNK1764
	94	Loading motor	VXM1034
	95	Screw	PBZ20P060FMC
	96	Screw	BBZ20P060FMC
	97	Stabilizer	REB1161
	98	Washer	RBF – 057
	99	Acetate tape (B)	REH1003
	101	Gear base assembly	RXB – 882
	102	E head	RPB1046
	103	R & P head	RPB1029
	104	Connector unit	RWZ2459
	105	Adjustment nut	RBA1047
	106	Head adjustment spring (C)	RBL – 034
	107	Hight spring	RBL – 036
	108	Head base	RNG – 334
	109	Sub – head base	RNG – 335
	110	E head base	RNG1033
	111	Earth lead assembly	RDF – 001
	112	REC switch unit	RWZ2457
	113	Tape selector unit	RWZ2458
	114	Sensor unit (B)	RWZ2460
	115	Cassette plate	RAH1306
	116	Lead cover	RNL – 793
	117	Shift roller	RNL – 731

***2 IC351 ENCODE DOLBY B/C NR**


IC351 CX20188
C :+8.5
B : 0
OFF:-8.5
R375 100K
R376 100K

BY B/C NR


TP3
TP4
-11.2dBV 276mV
151 CX20188
R251 C251
C252 R252

Mark	No.	Description	Part No.
	101	Gear base assembly	RXB – 882
	102	E head	RPB1046
	103	R & P head	RPB1029
	104	Connector unit	RWZ2459
	105	Adjustment nut	RBA1047
	106	Head adjustment spring (C)	RBL – 034
	107	Hight spring	RBL – 036
	108	Head base	RNG – 334
	109	Sub – head base	RNG – 335
	110	E head base	RNG1033
	111	Earth lead assembly	RDF – 001
	112	REC switch unit	RWZ2457
	113	Tape selector unit	RWZ2458
	114	Sensor unit (B)	RWZ2460
	115	Cassette plate	RAH1306
	116	Lead cover	RNL – 793
	117	Shift roller	RNL – 731

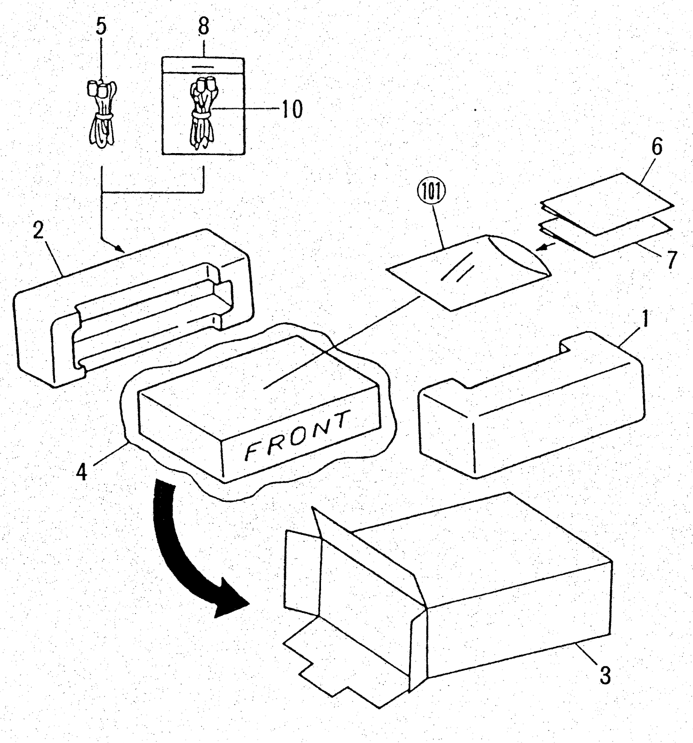
2. PACKING

NOTES:

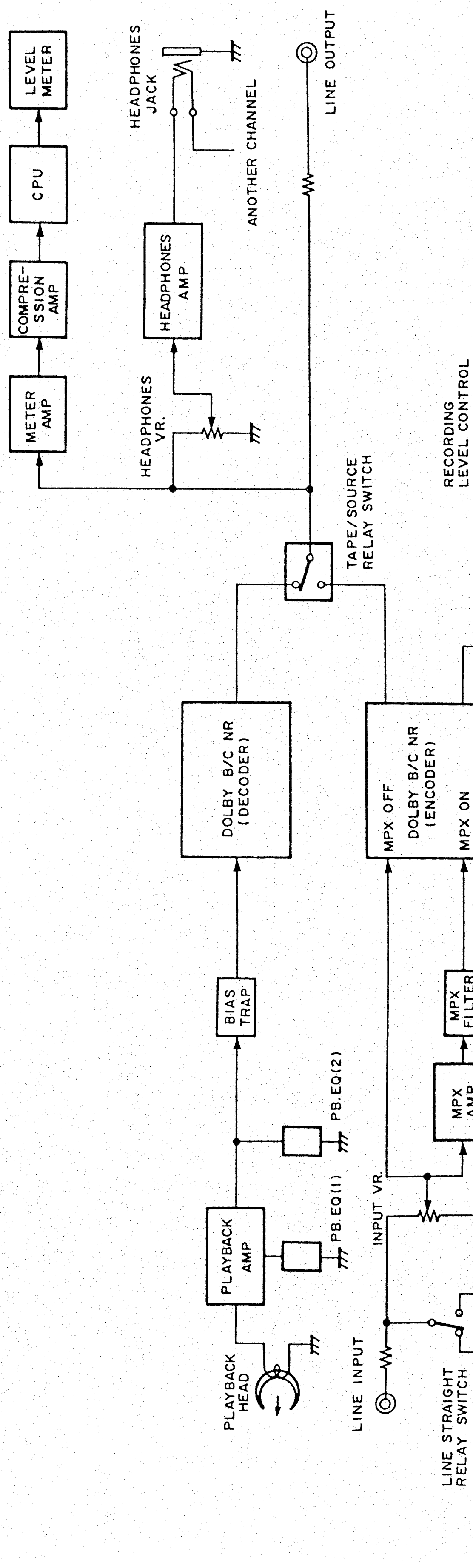
- The parts with an encircled number are generally unavailable because they are not in our Master Spare Parts List.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by " ⊙ " are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

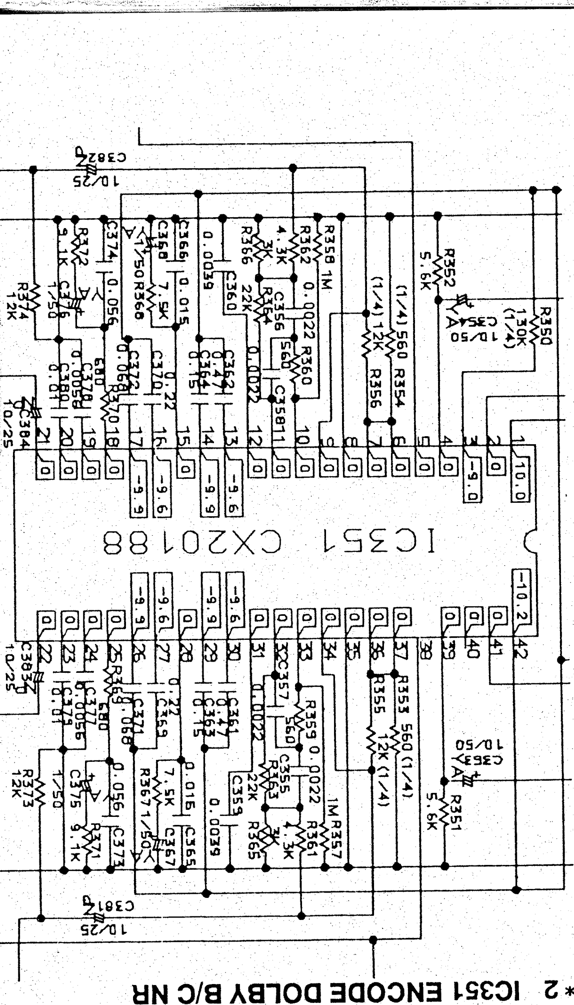
Parts List

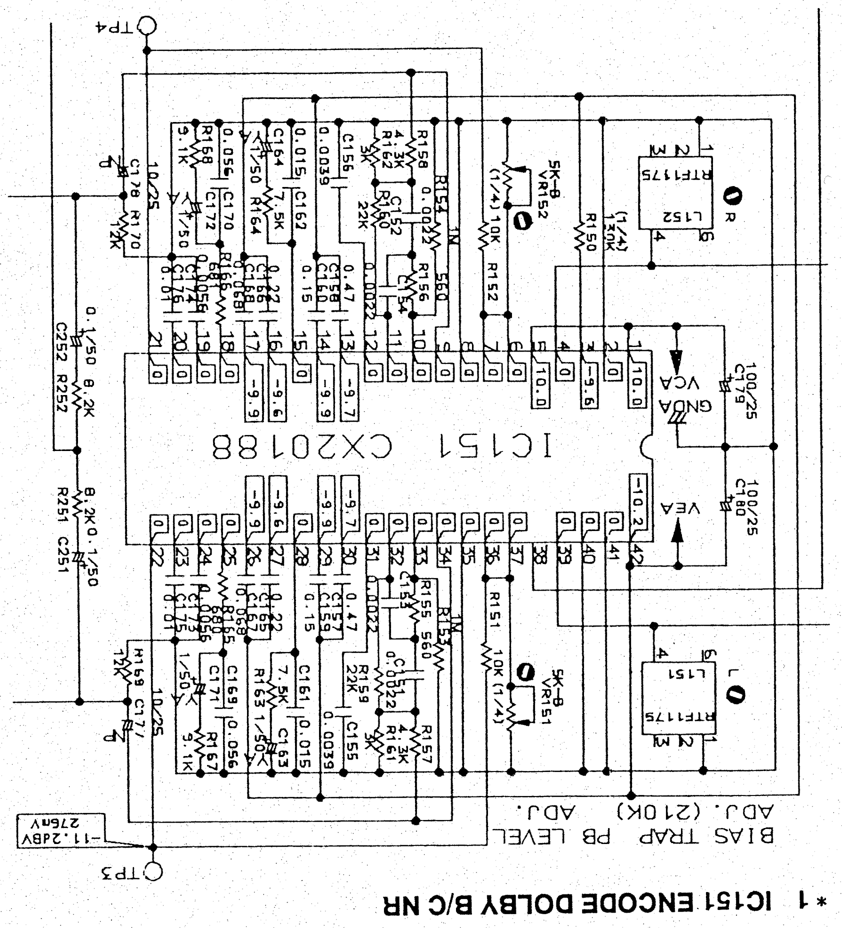
Mark	No.	Description	Part No.
	1	Pad (F)	RHA1095
	2	Pad (R)	RHA1096
	3	Packing case	RHG1356
	4	Sheet	RHX1007
	5	Control cord	RDE1031
	6	Operating instructions (English/French)	RRE1057
	7	Operating instructions (German/Italian/Dutch/Swedish/Spanish/Portuguese)	RRD1126
	8	Connection cord assembly	RDE1002
	9	Sheet	PHC1057
	10	Connection cord	RDE – 010
	101	Vinyl bag	RHL – 018


5
8
10
6
⑩
7
2
1
FRONT
4
3

3. BLOCK DIAGRAM


LEVEL METER
CPU
COMPRE-SSION AMP
METER AMP
HEADPHONES JACK
ANOTHER CHANNEL
HEADPHONES AMP
HEADPHONES VR.
LINE OUTPUT
TAPE/SOURCE RELAY SWITCH
RECORDING LEVEL CONTROL
DOLBY B/C NR (DECODER)
MPX OFF
DOLBY B/C NR (ENCODER)
MPX ON
BIAS TRAP
MPX FILTER
MPX AMP
PB.EQ(2)
PB.EQ(1)
INPUT VR.
PLAYBACK AMP
PLAYBACK HEAD
LINE INPUT
LINE STRAIGHT RELAY SWITCH


*2 IC351 ENCODE DOLBY B/C NR
IC351 CX20188


*1 IC151 ENCODE DOLBY B/C NR
IC151 CX20188
BIAS TRAP ADJ. (210K)
PB LEVEL ADJ.
TP3
TP4
-11.2dBV 276mV
L151
L152
RTF1175
VR151
VR152
VCA
VEA
GND

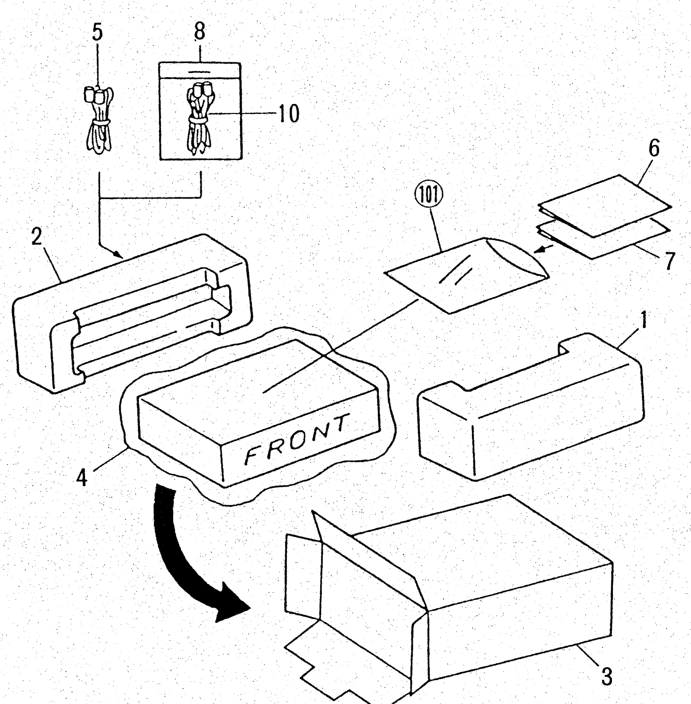
2. PACKING

NOTES:

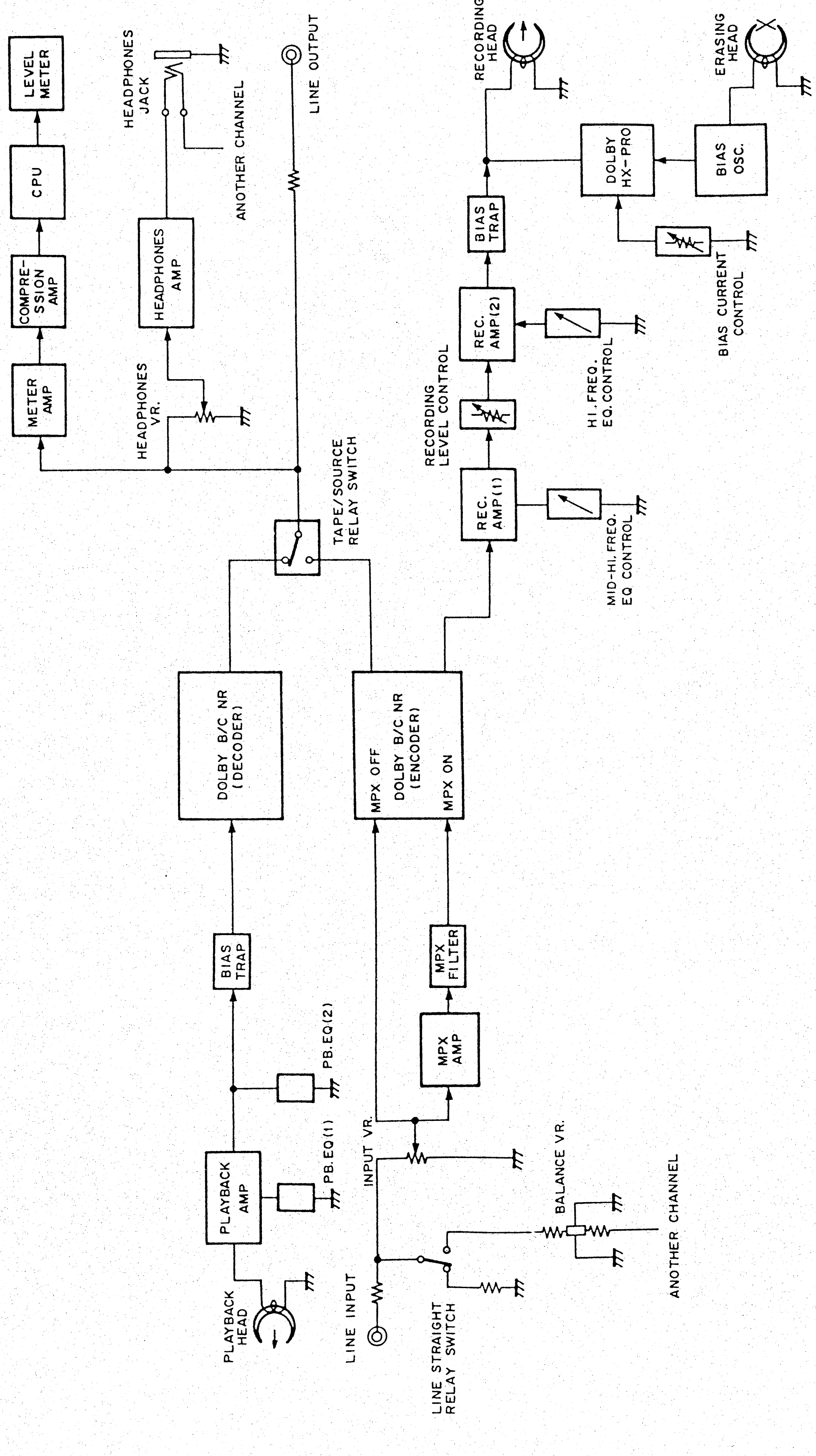
- The parts with an encircled number are generally unavailable because they are not in our Master Spare Parts List.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by " ⊙ " are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

Parts List

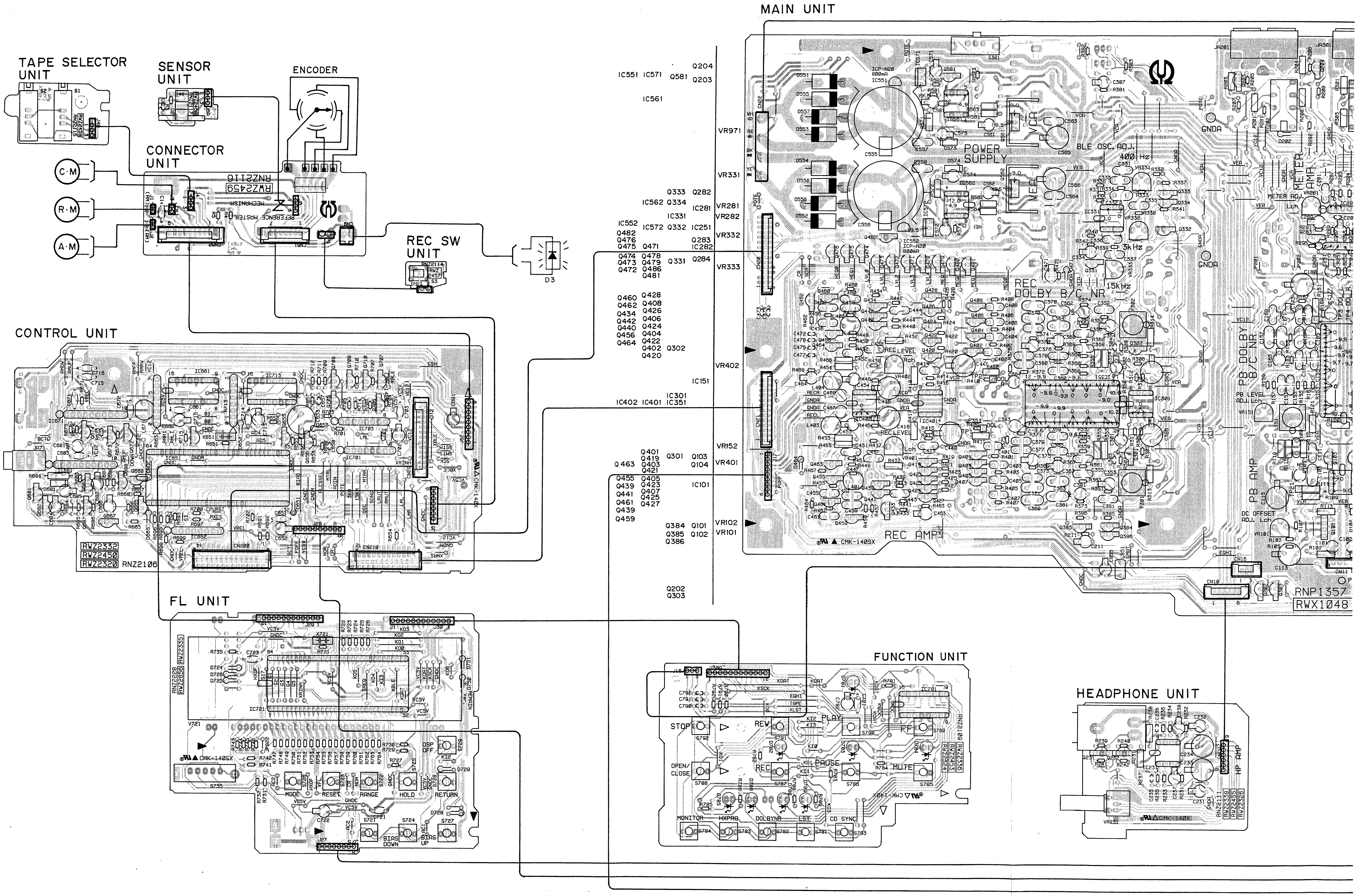
Mark	No.	Description	Part No.
	1	Pad (F)	RHA1095
	2	Pad (R)	RHA1096
	3	Packing case	RHG1356
	4	Sheet	RHX1007
	5	Control cord	RDE1031
	6	Operating instructions (English/French)	RRE1057
	7	Operating instructions (German/Italian/Dutch/Swedish/Spanish/Portuguese)	RRD1126
	8	Connection cord assembly	RDE1002
	9	Sheet	PHC1057
	10	Connection cord	RDE – 010
	101	Vinyl bag	RHL – 018

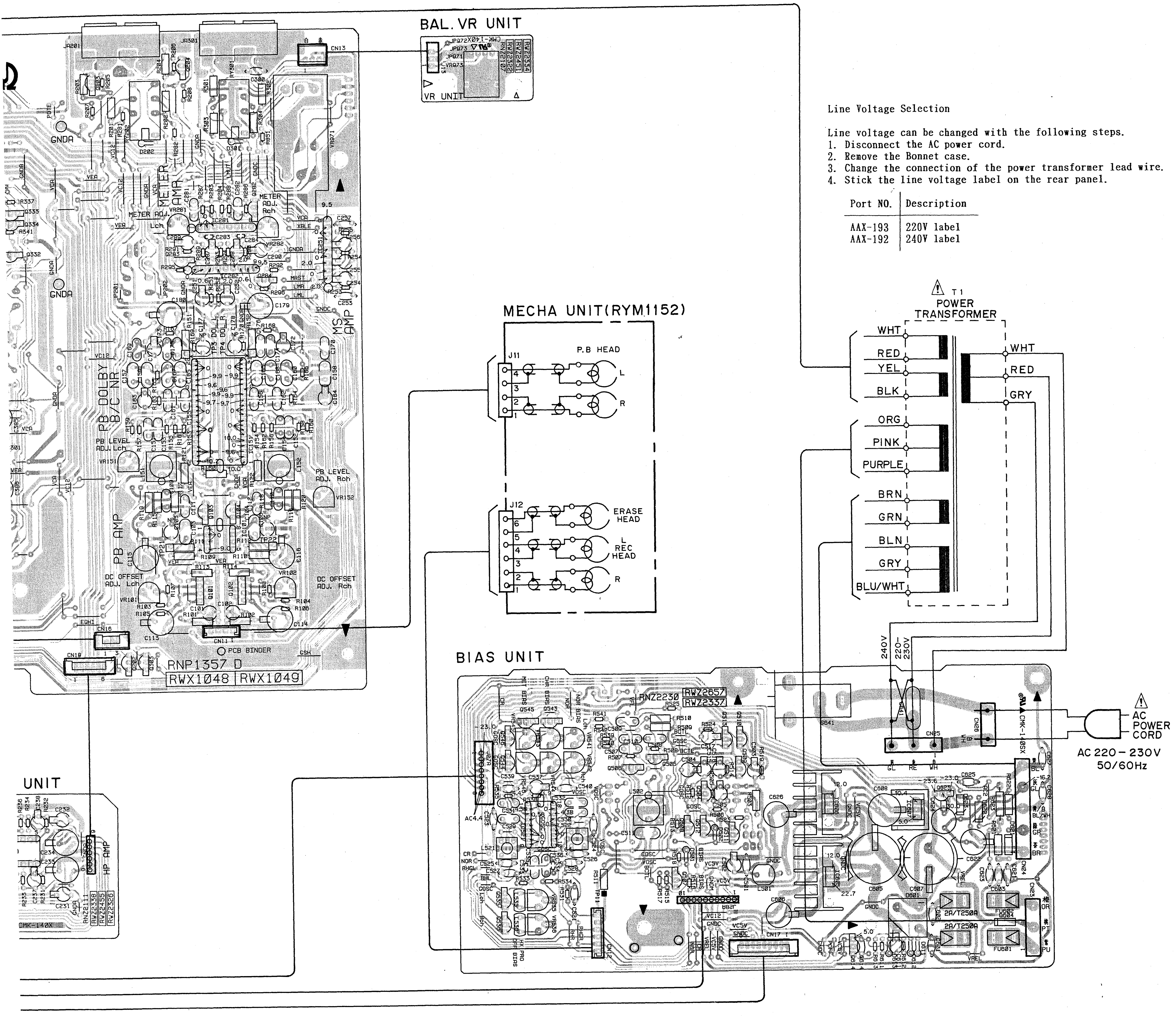

5
8
10
6
⑩①
7
2
1
4
FRONT
3

3. BLOCK DIAGRAM


PLAYBACK HEAD
PLAYBACK AMP
PB.EQ(1)
PB.EQ(2)
BIAS TRAP
DOLBY B/C NR (DECODER)
LINE INPUT
INPUT VR.
LINE STRAIGHT RELAY SWITCH
BALANCE VR.
ANOTHER CHANNEL
MPX AMP
MPX FILTER
MPX OFF
DOLBY B/C NR (ENCODER)
MPX ON
TAPE/SOURCE RELAY SWITCH
METER AMP
COMPRE-SSION AMP
CPU
LEVEL METER
HEADPHONES VR.
HEADPHONES AMP
HEADPHONES JACK
ANOTHER CHANNEL
LINE OUTPUT
REC. AMP(1)
MID-HI. FREQ. EQ CONTROL
RECORDING LEVEL CONTROL
REC. AMP(2)
HI. FREQ. EQ. CONTROL
BIAS TRAP
RECORDING HEAD
DOLBY HX-PRO
BIAS CURRENT CONTROL
BIAS OSC.
ERASING HEAD

- View from component side

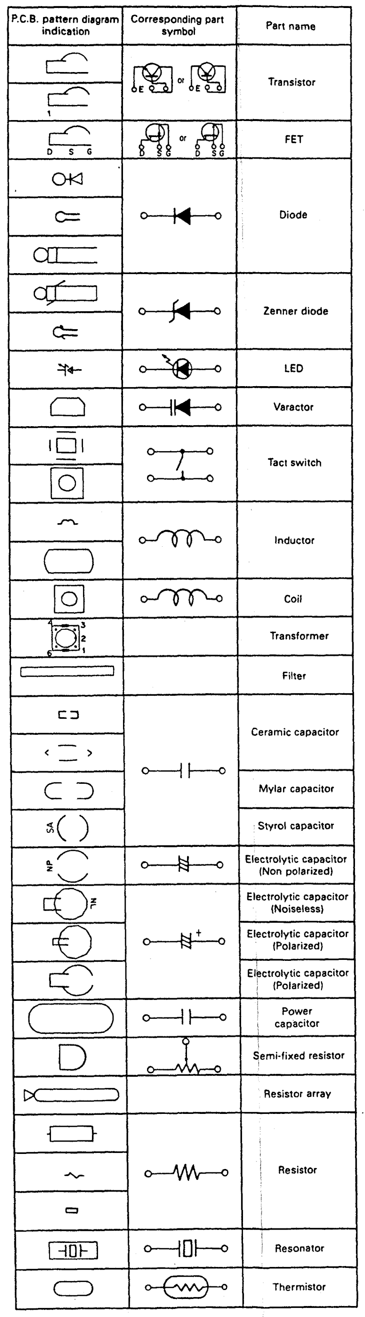

TAPE SELECTOR UNIT
SENSOR UNIT
ENCODER
CONNECTOR UNIT
RNZ2116
RWZ2459
REC SW UNIT
D3
C·M
R·M
A·M
CONTROL UNIT
RWZ2332
RWZ2450
RWZ2320
RNZ2106
FL UNIT
MODE
RESET
RANGE
HOLD
RETURN
DSP OFF
BIAS DOWN
BIAS UP
CMK-140SX
MAIN UNIT
POWER SUPPLY
BLE OSC. ADJ.
400 Hz
3kHz
15kHz
REC DOLBY B/C NR
REC LEVEL
REC AMP
PB DOLBY B/C NR
PB LEVEL ADJ.Lch
PB AMP
DC OFFSET ADJ. Lch
METER AMP
METER ADJ. Lch
GNDA
RNP1357
RWX1048
CMK-140SX
FUNCTION UNIT
STOP
REW
PLAY
FF
OPEN/CLOSE
REC
PAUSE
MUTE
MONITOR
HXPRO
DOLBYNR
CD SYNC
HEADPHONE UNIT
HP AMP
CMK-140X
IC551 IC571 Q581
Q204
Q203
IC561
VR971
VR331
Q333 Q282
IC562 Q334
IC281
IC331
VR281
VR282
IC552 IC572 Q332 IC251
VR332
Q482 Q476 Q475 Q471
Q283 IC282
Q474 Q478 Q473 Q479 Q331 Q284
Q472 Q486 Q481
VR333
Q460 Q428 Q462 Q408 Q434 Q426 Q442 Q406 Q440 Q424 Q456 Q404 Q464 Q422 Q402 Q302 Q420
VR402
IC151
IC301
IC402 IC401 IC351
Q401 Q419 Q301 Q103
Q463 Q403 Q104
Q421
VR152
VR401
Q455 Q405 Q439 Q423 Q441 Q407 Q461 Q425 Q439 Q427 Q459
IC101
Q384 Q101 Q385 Q102 Q386
VR102
VR101
Q202 Q303


BAL. VR UNIT
VR UNIT
CN13
METER AMP
PB DOLBY B/C NR
PB AMP
MS AMP
METER ADJ. Lch
METER ADJ. Rch
PB LEVEL ADJ. Lch
PB LEVEL ADJ. Rch
DC OFFSET ADJ. Lch
DC OFFSET ADJ. Rch
GNDA
RNP1357 D
RWX1048
RWX1049
PCB BINDER
CN11
CN16
CN18
MECHA UNIT(RYM1152)
J11
P.B HEAD
L
R
J12
ERASE HEAD
L REC HEAD
R
T1
POWER TRANSFORMER
WHT
RED
YEL
BLK
ORG
PINK
PURPLE
BRN
GRN
BLN
GRY
BLU/WHT
WHT
RED
GRY
240V
220-230V
BIAS UNIT
RNZ2230
RWZ2657
RWZ2337
CN25
GL
RE
WH
AC POWER CORD
AC 220-230V 50/60Hz
2A/T250A
FU601
FU602
CN17
UNIT
HP AMP
RNZ2111
CMK-140X

Line Voltage Selection

Line voltage can be changed with the following steps.
1. Disconnect the AC power cord.
2. Remove the Bonnet case.
3. Change the connection of the power transformer lead wire.
4. Stick the line voltage label on the rear panel.

Port NO.	Description
AAX-193	220V label
AAX-192	240V label



P.C.B. pattern diagram indication	Corresponding part symbol	Part name
		Transistor
		FET
		Diode
		Zenner diode
		LED
		Varactor
		Tact switch
		Inductor
		Coil
		Transformer
		Filter
		Ceramic capacitor
		Mylar capacitor
		Styrol capacitor
		Electrolytic capacitor (Non polarized)
		Electrolytic capacitor (Noiseless)
		Electrolytic capacitor (Polarized)
		Electrolytic capacitor (Polarized)
		Power capacitor
		Semi-fixed resistor
		Resistor array
		Resistor
		Resonator
		Thermistor

1. This P.C.B. connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the above Table.
3. The capacitor terminal marked with ▭ shows negative terminal.
4. The diode marked with ○ shows cathode side.
5. The transistor terminal marked with ▭ shows emitter.

Line Voltage Selection

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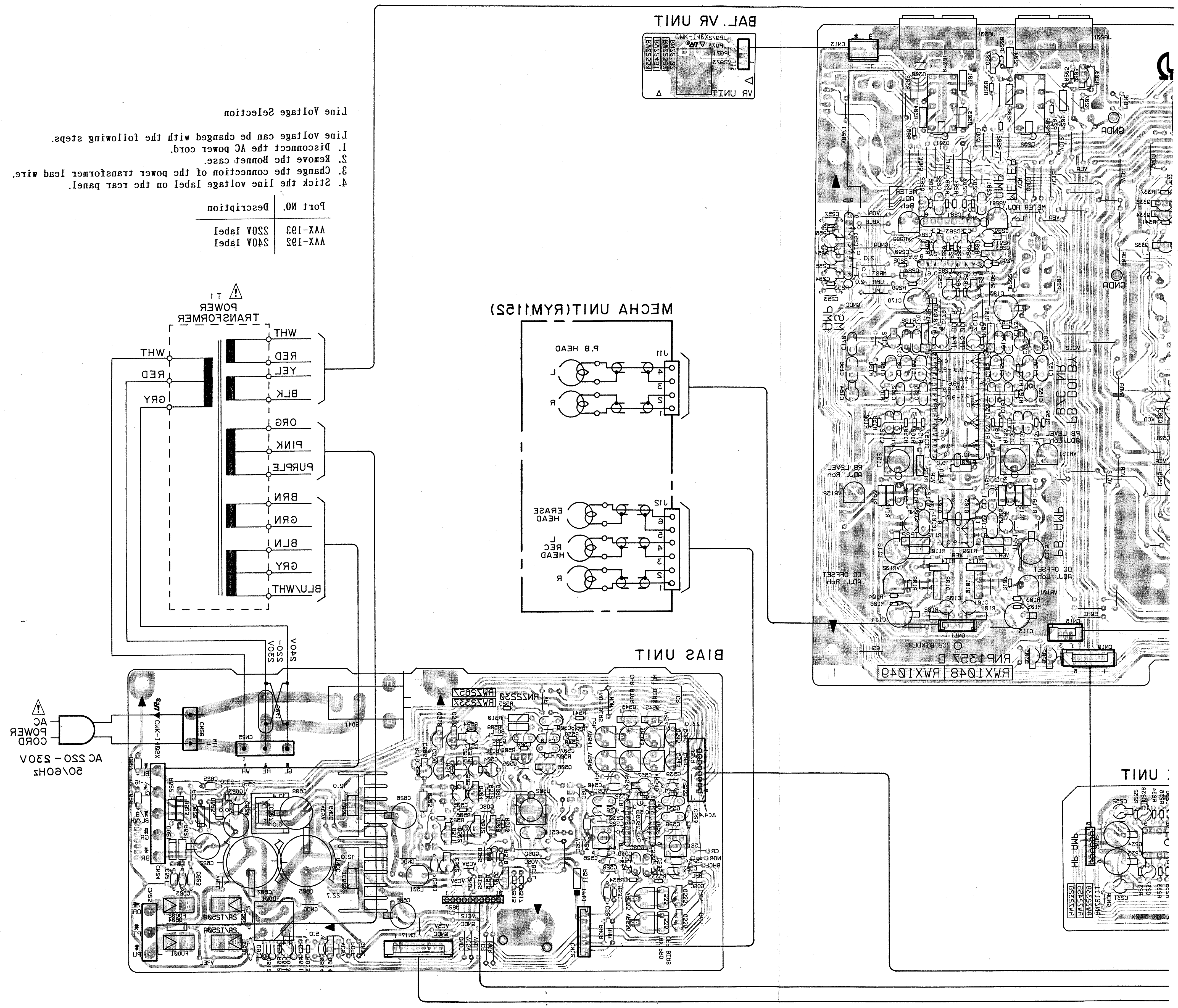
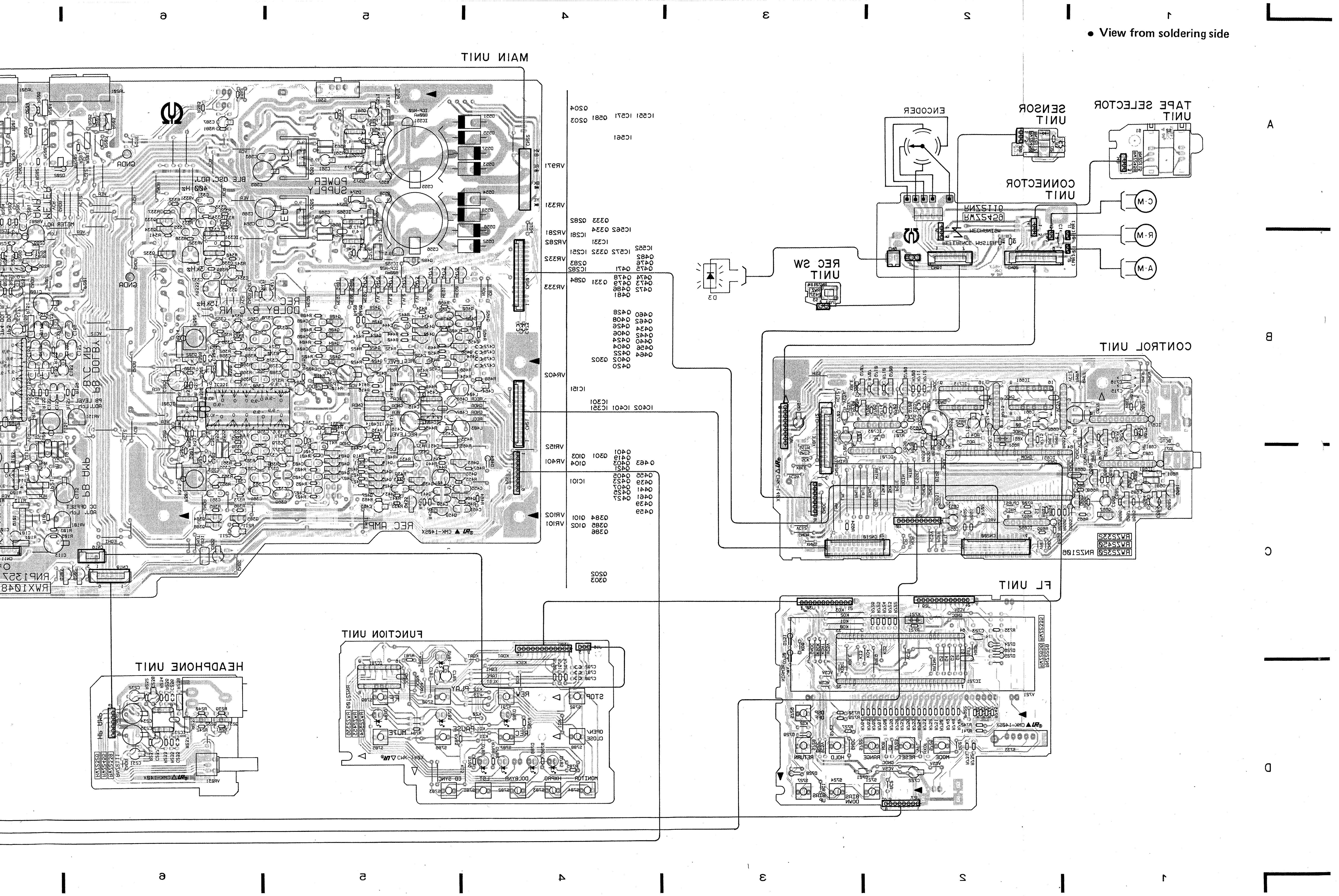
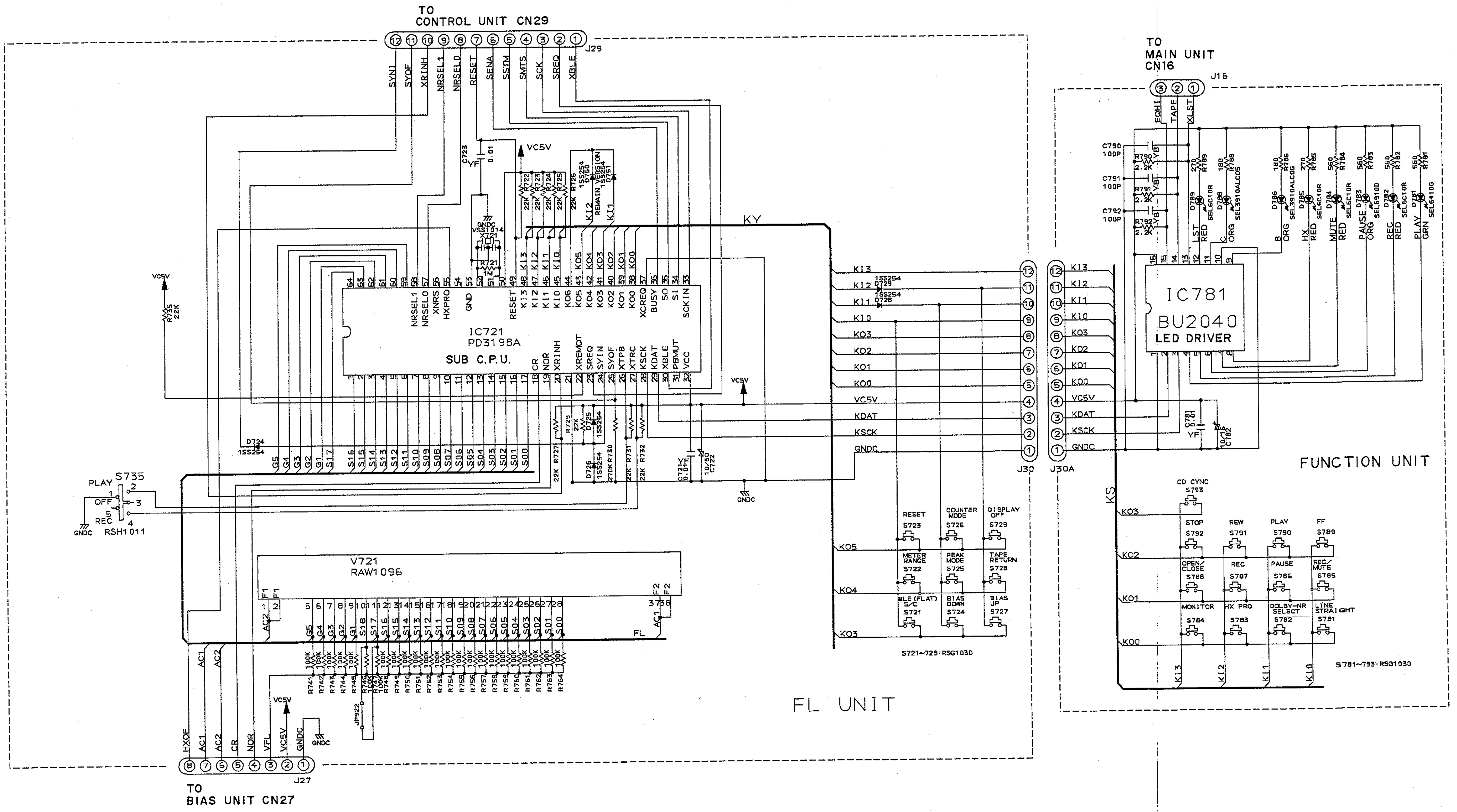
Part No.	Description
AAX-193	220V label
AAX-192	240V label


BAL. VR UNIT
VR UNIT
MECHA UNIT(RYM1152)
P.B HEAD
L
R
ERASE HEAD
REC HEAD
L
R
T1 POWER TRANSFORMER
WHT
RED
YEL
BLK
ORG
PINK
PURPLE
BRN
GRN
BLN
GRY
BLU/WHT
WHT
RED
GRY
240V
220-230V
BIAS UNIT
AC POWER CORD
AC 220 - 230V 50/60Hz
PB AMP
PB LEVEL ADJ. Lch
PB LEVEL ADJ. Rch
DC OFFSET ADJ. Lch
DC OFFSET ADJ. Rch
METER ADJ. Lch
METER ADJ. Rch
GNDA
RNP1357 D
RWX1048 RWX1049
HP AMP
UNIT

• View from soldering side


MAIN UNIT
POWER SUPPLY
REC DOLBY B/C NR
PB DOLBY B/C NR
REC AMP
PB AMP
METER AMP
ENCODER
SENSOR UNIT
TAPE SELECTOR UNIT
CONNECTOR UNIT
REC SW UNIT
CONTROL UNIT
FL UNIT
FUNCTION UNIT
HEADPHONE UNIT
M·C
M·R
M·A
D3
6
5
4
3
2
1
A
B
C
D


TO
CONTROL UNIT CN29
J29
SYNI
SYOF
XRINH
NRSEL1
NRSEL0
RESET
SENA
SSTM
SMTS
SCK
SREQ
XBLE
VC5V
C723
0.01
YF
X721
VSS1014
R721
1M
R722 22K
R723 22K
R724 22K
R725 22K
R726 22K
D750
D751
1SS254
REMAIN VERSION
KI2
KI1
KY
IC721
PD3198A
SUB C.P.U.
NRSEL1
NRSEL0
XNRS
HXPRO
GND
RESET
KI3
KI2
KI1
KI0
KO6
KO5
KO4
KO3
KO2
KO1
KO0
XCREQ
BUSY
SO
SI
SCKIN
CR
NOR
XRINH
XREMOT
SREQ
SYIN
SYOF
XTPB
XTRC
KSCK
KDAT
XBLE
PBMUT
VCC
R735
22K
D724
1SS254
R729
22K
D725
1SS254
D726
1SS254
R730
270K
R727
22K
R731
22K
R732
22K
C721
10/6.3
C722
10/50
GNDC
G5
G4
G3
G2
G1
S17
S16
S15
S14
S13
S12
S11
S10
S09
S08
S07
S06
S05
S04
S03
S02
S01
S00
PLAY
S735
OFF
REC
RSH1011
V721
RAW1096
F1
F2
AC1
AC2
FL
S18
R741
R742
R743
R744
R745
R746
R747
R748
R749
R750
R751
R752
R753
R754
R755
R756
R757
R758
R759
R760
R761
R762
R763
R764
100K
JP922
TO
BIAS UNIT CN27
J27
HXOF
AC1
AC2
CR
NOR
VFL
VC5V
GNDC
KI3
KI2
KI1
KI0
KO3
KO2
KO1
KO0
VC5V
KDAT
KSCK
GNDC
D729
D728
1SS254
J30
J30A
RESET
S723
COUNTER MODE
S726
DISPLAY OFF
S729
METER RANGE
S722
PEAK MODE
S725
TAPE RETURN
S728
BLE (FLAT) S/C
S721
BIAS DOWN
S724
BIAS UP
S727
KO5
KO4
KO3
S721~729 : RSG1030
FL UNIT
TO
MAIN UNIT
CN16
J16
EQHI
TAPE
XLST
C790
100P
C791
100P
C792
100P
R790
R791
R792
2.2K
YBT
R789
R788
R787
R786
R785
R784
R783
R782
R781
270
180
560
D789
D788
D787
D786
D785
D784
D783
D782
D781
SEL3910ALC05
SEL6C10R
SEL3910D
SEL6410G
LST
RED
C
ORG
B
ORG
HX
RED
MUTE
RED
PAUSE
ORG
REC
RED
PLAY
GRN
IC781
BU2040
LED DRIVER
C781
0.01
YF
C782
10/16
FUNCTION UNIT
KS
CD CYNC
S793
STOP
S792
REW
S791
PLAY
S790
FF
S789
OPEN/CLOSE
S788
REC
S787
PAUSE
S786
REC/MUTE
S785
MONITOR
S784
HX PRO
S783
DOLBY-NR SELECT
S782
LINE STRAIGHT
S781
S781~793 : RSG1030

5. PCB PARTS LIST

NOTES:

- Parts without part number cannot be supplied.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%)
560 Ω → 56 × 10^1 → 561 ································ RD1/4PS $\boxed{5}\boxed{6}\boxed{1}$J
47k Ω → 47 × 10^3 → 473 ································ RD1/4PS $\boxed{4}\boxed{7}\boxed{3}$J
0.5 Ω → 0R5 ······································· RN2H $\boxed{0}\boxed{R}\boxed{5}$K
1 Ω → 010 ··· RS1P $\boxed{0}\boxed{1}\boxed{0}$K
Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).
5.62k Ω → 562 × 10^1 → 5621 ······························ RN1/4SR $\boxed{5}\boxed{6}\boxed{2}\boxed{1}$F

Mark	No.	Description	Part No.
	LIST OF ASSEMBLIES		
		CONTROL UNIT	
		BALANCE VR UNIT	
		FL UNIT	
		FUNCTION UNIT	
		BIAS UNIT	
		HEADPHONE UNIT	
		MAIN UNIT	
		RELAY UNIT	RWM1454
		├─REC SWITCH UNIT	
		├─TAPE SELECTOR UNIT	
		├─CONNECTOR UNIT	
		└─SENSOR UNIT	
	CONTROL UNIT		
	SEMICONDUCTORS		
	IC651	MAIN CPU	PD4359A
	IC652		M6M80011AL
	IC661	CMOS LOGIC IC	TC4050BP
	IC671	IC	BA6109
	IC681	IC	BA6109
	IC701	COMPARATOR	BA10393N
	IC703	COMPARATOR	BA10393N
	IC713	CMOS LOGIC IC	TC4050BP
	Q655, 656	DIGITAL TRANSISTOR	DTA114TS
	Q665	TRANSISTOR	DTC114ES
	Q667	TRANSISTOR	DTC124ES
	Q668	DIGITAL TRANSISTOR	DTC114TS
	Q672-674	TRANSISTOR	DTC114ES
	Q681-683	TRANSISTOR	2SA1309A
	Q687	TRANSISTOR	2SA1309A
	Q688	TRANSISTOR	DTC114ES
	Q705	DIGITAL TRANSISTOR	DTA114ES
	Q706	TRANSISTOR	2SC3311A
	Q707, 708	DIGITAL TRANSISTOR	DTC114TS
	Q709	DIGITAL TRANSISTOR	DTA114ES
	Q710	DIGITAL TRANSISTOR	DTC114TS
	Q715	TRANSISTOR	DTC114ES

Mark	No.	Description	Part No.
	D651-653	DIODE	1SS254
	D665	DIODE	1SS254
⚠	D681	RECRIFIER DIODE	1SR35-100A
	COILS/TRANSFORMERS		
	L671		RTF1068
	CAPACITORS		
	C651	CERAMIC CAPACITOR	CKCYF103Z50
	C652	ELECTR. CAPACITOR	CEAS101M10
	C653	ELECTR. CAPACITOR	CEAS102M6R3
	C657, 658	AXIAL CAPACITOR	CKPUYB101K50
	C661	CERAMIC CAPACITOR	CKCYF103Z50
	C662	ELECTR. CAPACITOR	CEAS100M50
	C666	ELECTR. CAPACITOR	CEAS330M16
	C671	CERAMIC CAPACITOR	CKCYF103Z50
	C672	CERAMIC CAPACITOR	CKCYF473Z50
	C681	ELECTR. CAPACITOR	CEANP4R7M25
	C682	ELECTR. CAPACITOR	CEASR22M50
	C683	CERAMIC CAPACITOR	CKCYF103Z50
	C684	ELECTR. CAPACITOR	CEAS330M16
	C685	ELECTR. CAPACITOR	CEAS101M16
	C691	ELECTR. CAPACITOR	CEAS100M50
	C701	CERAMIC CAPACITOR	CKCYF473Z50
	C702	ELECTR. CAPACITOR	CEAS100M50
	C703	CERAMIC CAPACITOR	CKCYF473Z50
	C713	ELECTR. CAPACITOR	CEAS100M50
	C714-716	CERAMIC CAPACITOR	CKCYF103Z50
	RESISTORS		
	R651-658	CARBONFILM RESISTOR	RD1/6PM□□□J
	R663	(10k)	RCX□□□□
	R665-668	CARBONFILM RESISTOR	RD1/6PM□□□J
	R671-675	CARBONFILM RESISTOR	RD1/6PM□□□J
	R681	METAL OXIDE RESISTOR	RS1LMF□□□J
	R683-688	CARBONFILM RESISTOR	RD1/6PM□□□J
	R691-704	CARBONFILM RESISTOR	RD1/6PM□□□J
	R705, 706	METALFILM RESISTOR	RN1/6PQ□□□□F
	R707	CARBONFILM RESISTOR	RD1/6PM□□□J
	R709-712	METALFILM RESISTOR	RN1/6PQ□□□□F

Mark	No.	Description	Part No.
	R713	(10k)	RCX□□□□
	R714, 715	CARBONFILM RESISTOR	RD1/6PM□□□J
	OTHERS		
	CN200		TXC-P14X-A1
	CN210	CONECTOR(12P)	TXC-P12X-A1
	JA71	JACK	RKN1014
	X651	CERAMIC RESONATOR	VSS1014
	BALANCE VR UNIT		
	RESISTORS		
	VR973	(200k)	RCV1078
	FUNCTION UNIT		
	SEMICONDUCTORS		
	IC781	LOGIC IC	BU2040
	D781	LED	SEL6410G
	D782		SEL6C10R
	D783	LED	SEL6910D
	D784, 785		SEL6C10R
	D786	LED	SEL3910ALC05
	D788	LED	SEL3910ALC05
	D789		SEL6C10R
	SWITCHES		
	S781-793	SWITCH	RSG1030
	CAPACITORS		
	C781	CERAMIC CAPACITOR	CKCYF103Z50
	C782	ELECTR. CAPACITOR	CEJA100M16
	C790-792	AXIAL CAPACITOR	CKPUYB101K50
	RESISTORS		
	R781-786	CARBONFILM RESISTOR	RD1/6PM□□□J
	R788-792	CARBONFILM RESISTOR	RD1/6PM□□□J
	HEADPHONE UNIT		
	SEMICONDUCTORS		
	IC231	OP AMP	M5238PF
	Q231, 232	TRANSISTOR	2SD2144S
	CAPACITORS		
	C231, 232	ELECTR. CAPACITOR	CEYA010M50
	C233, 234	ELECTR. CAPACITOR(100/25)	PCH1076
	C235, 236	AXIAL CAPACITOR	CKPUYB221K50
	C237, 238	ELECTR. CAPACITOR	CEYA4R7M50
	RESISTORS		
	R231-236	CARBONFILM RESISTOR	RD1/6PM□□□J
	R237, 238	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R239-242	CARBONFILM RESISTOR	RD1/6PM□□□J
	VR231	VARIABLE RESISTOR(20k)	PCS1002
	OTHERS		
	JA231	JACK	RKN1019
	REC SWITCH UNIT		
	SWITCHES		
	S3	SWITCH	RSG-143

Mark	No.	Description	Part No.
	TAPE SELECTOR UNIT		
	SWITCHES		
	S1, 2		RSH-070
	CONNECTOR UNIT		
	CAPACITORS		
	C1	CERAMIC CAPACITOR	CKCYF473Z50
	RESISTORS		
	R4, 5	CARBONFILM RESISTOR	RD1/6PM□□□J
	SENSOR UNIT		
	SEMICONDUCTORS		
	D2		GP1A51HR
	CAPACITORS		
	C3	CERAMIC CAPACITOR	CKPUYY103N16
	RESISTORS		
	R3	CARBONFILM RESISTOR	RD1/6PM□□□J
	FL UNIT		
	SEMICONDUCTORS		
	IC721		PD3198A
	D724-726	DIODE	1SS254
	D728, 729	DIODE	1SS254
	D750, 751	DIODE	1SS254
	SWITCHES		
	S721-729	SWITCH	RSG1030
	S735		RSH1011
	CAPACITORS		
	C721	CERAMIC CAPACITOR	CKCYF103Z50
	C722	ELECTR. CAPACITOR	CEAS100M50
	C723	CERAMIC CAPACITOR	CKCYF103Z50
	RESISTORS		
	R721-727	CARBONFILM RESISTOR	RD1/6PM□□□J
	R729-732	CARBONFILM RESISTOR	RD1/6PM□□□J
	R735	CARBONFILM RESISTOR	RD1/6PM□□□J
	R741-764	CARBONFILM RESISTOR	RD1/6PM□□□J
	OTHERS		
	V721		RAW1096
	X721	CERAMIC RESONATOR	VSS1014
	BIAS UNIT		
	SEMICONDUCTORS		
	IC521	DOLBY HX PRO IC	UPC1297CA
⚠	IC605, 606	REGULATOR IC	NJM7812FA
⚠	IC607	REGULATOR IC	NJM7805FA
	Q504	TRANSISTOR	2SA1283
	Q505, 506	TRANSISTOR	2SD1302
	Q507	TRANSISTOR	2SC3311A
	Q508	TRANSISTOR	DTC124ES
	Q509	TRANSISTOR	2SC3311A
	Q510	TRANSISTOR	DTC124ES
	Q511	TRANSISTOR	DTC114ES

Mark	No.	Description	Part No.
	Q512	DIGITAL TRANSISTOR	DTA114ES
	Q513	TRANSISTOR	2SA1309A
	Q535, 536	DIGITAL TRANSISTOR	DTC114TS
	Q543-546	TRANSISTOR	DTC114ES
	Q614	TRANSISTOR	2SA1309A
⚠	Q623	TRANSISTOR	2SA1283
	D501, 502	DIODE	1SS254
⚠	D601		S2VB20
⚠	D604	RECRIFIER DIODE	1SR35-100A
	D611-613	DIODE	1SS254
⚠	D621	RECRIFIER DIODE	1SR35-100A
	D622	ZENER DIODE	MTZJ6. 8B
⚠	D623	ZENER DIODE	MTZJ24D

SWITCHES

Mark	No.	Description	Part No.
⚠	S641	SWITCH	RSA-063

COILS/TRANSFORMERS

Mark	No.	Description	Part No.
	L501		RTF1160
	L502		RTD1067
	L521, 522		RTD1045
	L535, 536	RADIAL INDUCTOR	LFA122J

CAPACITORS

Mark	No.	Description	Part No.
	C501	CERAMIC CAPACITOR	CKCYF473Z50
	C502	ELECTR. CAPACITOR	CEAS101M16
	C503	ELECTR. CAPACITOR	CEAS100M50
	C504, 505	ELECTR. CAPACITOR	CEAS330M16
	C507, 508	AUDIO FILM CAPACITOR	CFTXA222J50
	C509	AUDIO FILM CAPACITOR	CFTXA153J50
	C510	AUDIO FILM CAPACITOR	CFTXA332J50
	C511	PORYPROPYLENE FILM C(1500PF)	RCE1026
	C515	ELECTR. CAPACITOR	CEAS220M25
	C516	ELECTR. CAPACITOR	CEAS100M50
	C517	ELECTR. CAPACITOR	CEAS4R7M50
	C521	CERAMIC CAPACITOR	CCCCH470J50
	C523, 524	CERAMIC CAPACITOR	CKCYF473Z50
	C525, 526	CERAMIC CAPACITOR	CCCSL221K500
	C527, 528	CERAMIC CAPACITOR (390P/500)	RCG1004
	C529, 530	AUDIO FILM CAPACITOR	CFTXA333J50
	C531, 532	AUDIO FILM CAPACITOR	CFTXA223J50
	C533, 534	AXIAL CAPACITOR	CKPUYB471K50
	C535, 536	AUDIO FILM CAPACITOR	CFTXA103J50
	C537	ELECTR. CAPACITOR	CEAS330M16
	C539, 540	CERAMIC CAPACITOR	CKCYF103Z50
	C601-603	CERAMIC CAPACITOR	CKCYF473Z50
	C605	ELECTR. CAPACITOR(6800μF/25)	RCH1032
	C606	ELECTR. CAPACITOR	CEAS101M16
	C607	ELECTR. CAPACITOR	CEAS682M16
	C608	ELECTR. CAPACITOR	CEAS102M6R3
	C611	ELECTR. CAPACITOR	CEAS4R7M50
	C614	CERAMIC CAPACITOR	CKCYF103Z50
	C621	CERAMIC CAPACITOR	CKCYF473Z50
	C622	ELECTR. CAPACITOR	CEAS101M50
	C623	CERAMIC CAPACITOR	CKCYF473Z50
	C624	ELECTR. CAPACITOR	CEAS101M25
	C625	CERAMIC CAPACITOR	CKCYF473Z50
	C626	ELECTR. CAPACITOR	CEAS101M16
	C627, 628	CERAMIC CAPACITOR	CKCYF473Z50
⚠	C641	CAPACITOR(0. 01μF/AC400)	VCG-044

RESISTORS

Mark	No.	Description	Part No.
	R503	CARBONFILM RESISTOR	RD1/2LF☐☐☐J
	R505-508	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R509, 510	CARBONFILM RESISTOR	RD1/2PMF☐☐☐J
	R511	CARBONFILM RESISTOR	RD1/2LF☐☐☐J
	R512-514	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R515, 516	METALFILM RESISTOR	RN1/6PQ☐☐☐☐F
	R517-519	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R523-525	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R531	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R533-536	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R539-542	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R611-613	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
⚠	R621	FUSLIBLE RESISTOR	RFA1/4L☐☐☐J
	R622	CARBONFILM RESISTOR	RD1/2PMF☐☐☐J
	R623	METAL OXIDE RESISTOR	RS1LMF☐☐☐J
	VR535, 536, 541-544	VR(3. 3k)	RCP1089
	VR545, 546	VR(15k)	RCP1090

MAIN UNIT

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC101	OP-AMP-IC	M5220P
	IC151	DOLBY-B, C IC	CX20188
	IC251	IC	BA335
	IC281	IC	BA15218N
	IC282		BA6138
	IC301	OP-AMP, IC	M5218AP
	IC331	OP-AMP IC	BA15218
	IC351	DOLBY-B, C IC	CX20188
	IC401, 402	OP AMP	M5238PF
⚠	IC551, 552	IC PROTECTOR	ICP-N20
	IC561, 562	OP-AMP IC	NJM2114D
⚠	IC571	REGULATOR IC	NJM78M12FA
⚠	IC572	REGULATOR IC	NJM79M12FA
	Q101, 102	N-DUAL-FET	2SK389
	Q103, 104	DIGITAL TRANSISTOR	DTC114TS
	Q202	DIGITAL TRANSISTOR	DTC114TS
	Q203, 204	TRANSISTOR	2SD2144S
	Q282	TRANSISTOR	DTC114ES
	Q283, 284	TRANSISTOR	DTC124ES
	Q301, 302	TRANSISTOR	2SD2144S
	Q303	DIGITAL TRANSISTOR	DTC114TS
	Q331-334	TRANSISTOR	DTC114ES
	Q384	DIGITAL TRANSISTOR	DTA114ES
	Q385, 386	TRANSISTOR	DTC114ES
	Q401-408	DIGITAL TRANSISTOR	DTC114TS
	Q419-428	DIGITAL TRANSISTOR	DTC114TS
	Q433, 434	TRANSISTOR	2SD2144S
	Q439-442	DIGITAL TRANSISTOR	DTC114TS
	Q455, 456	DIGITAL TRANSISTOR	DTC114TS

Mark	No.	Description	Part No.
	Q459-462	DIGITAL TRANSISTOR	DTC114TS
	Q463, 464	TRANSISTOR	2SD2144S
	Q471-476	DIGITAL TRANSISTOR	DTA114ES
	Q478-482	DIGITAL TRANSISTOR	DTA114ES
⚠	Q561	TRANSISTOR	2SD1855
⚠	Q562	TRANSISTOR	2SB1335
	Q581	TRANSISTOR	2SA1309A
	D202	DIODE	1SS254
	D301	DIODE	1SS254
	D464	DIODE	1SS254
	D471	ZENER DIODE	MTZJ4.7A
⚠	D551-558		31DF2-FC5
⚠	D573, 574	ZENER DIODE	HZ5BLL

SWITCHES

Mark	No.	Description	Part No.
	S381		RSH1025

RELAYS

Mark	No.	Description	Part No.
	RY202		RSR1016
	RY301		RSR1016

COILS/TRANSFORMERS

Mark	No.	Description	Part No.
	L151, 152	BIAS TRAP(210KHZ)	RTF1175
	L401, 402	COIL	RTF1022
	L403, 404		RTF1013
	L851	RADIAL INDUCTOR	LFA121K
	F301, 302	FILTER	RTF1059

CAPACITORS

Mark	No.	Description	Part No.
	C101, 102	PL. STYRENE CAPACITOR	CQSF151J50
	C103, 104	AUDIO FILM CAPACITOR	CFTXA563J50
	C105, 106	ELECTR. CAPACITOR (10μF/25)	RCH1037
	C109, 110	AUDIO FILM CAPACITOR	CFTXA472J50
	C111, 112	AUDIO FILM CAPACITOR	CFTXA273J50
	C113-116	ELECTR. CAPACITOR(100/25)	PCH1076
	C151-154	AUDIO FILM CAPACITOR	CFTXA222J50
	C155, 156	AUDIO FILM CAPACITOR	CFTXA392J50
	C157, 158	AUDIO FILM CAPACITOR	CFTXA474J50
	C159, 160	AUDIO FILM CAPACITOR	CFTXA154J50
	C161, 162	AUDIO FILM CAPACITOR	CFTXA153J50
	C163, 164	ELECTR. CAPACITOR	CEYA010M50
	C165, 166	AUDIO FILM CAPACITOR	CFTXA224J50
	C167, 168	AUDIO FILM CAPACITOR	CFTXA683J50
	C169, 170	AUDIO FILM CAPACITOR	CFTXA563J50
	C171, 172	ELECTR. CAPACITOR	CEYA010M50
	C173, 174		CFTXA562J50
	C175, 176	AUDIO FILM CAPACITOR	CFTXA103J50
	C177, 178	ELECTR. CAPACITOR (10μF/25)	RCH1037
	C179, 180	ELECTR. CAPACITOR(100/25)	PCH1076
	C211	ELECTR. CAPACITOR	CEAS010M50
	C251, 252	ELECTR. CAPACITOR	CEASR10M50
	C253	AUDIO FILM CAPACITOR	CFTXA473J50
	C254, 255	ELECTR. CAPACITOR	CEASR10M50
	C256	ELECTR. CAPACITOR	CEASR47M50
	C257	AUDIO FILM CAPACITOR	CFTXA473J50
	C281, 282	AUDIO FILM CAPACITOR	CFTXA563J50
	C283, 284	AXIAL CERAMIC C.	CCPUSL470J50
	C287-290	ELECTR. CAPACITOR	CEAS4R7M50
	C300	CERAMIC CAPACITOR	CKCYF473Z50
	C301, 302	ELECTR. CAPACITOR	CEYA010M50
	C303, 304	AXIAL CAPACITOR	CKPUYB221K50
	C331	AUDIO FILM CAPACITOR	CFTXA683J50
	C332	MYLAR FILM CAPACITOR	CQMA104J50
	C333	MYLAR FILM CAPACITOR	CQMA123J50
	C334	ELECTR. CAPACITOR	CEAS010M50
	C335	AUDIO FILM CAPACITOR	CFTXA682J50
	C336	MYLAR FILM CAPACITOR	CQMA123J50
	C337	MYLAR FILM CAPACITOR	CQMA182J50
	C353, 354	ELECTR. CAPACITOR	CEYA100M50
	C355-358	AUDIO FILM CAPACITOR	CFTXA222J50
	C359, 360	AUDIO FILM CAPACITOR	CFTXA392J50
	C361, 362	AUDIO FILM CAPACITOR	CFTXA474J50
	C363, 364	AUDIO FILM CAPACITOR	CFTXA154J50
	C365, 366	AUDIO FILM CAPACITOR	CFTXA153J50
	C367, 368	ELECTR. CAPACITOR	CEYA010M50
	C369, 370	AUDIO FILM CAPACITOR	CFTXA224J50
	C371, 372	AUDIO FILM CAPACITOR	CFTXA683J50
	C373, 374	AUDIO FILM CAPACITOR	CFTXA563J50
	C375, 376	ELECTR. CAPACITOR	CEYA010M50
	C377, 378		CFTXA562J50
	C379, 380	AUDIO FILM CAPACITOR	CFTXA103J50
	C381-384	ELECTR. CAPACITOR (10/25)	RCH1037
	C385, 386	ELECTR. CAPACITOR(100/25)	PCH1076
	C387	ELECTR. CAPACITOR	CEAS330M16
	C401, 402	AUDIO FILM CAPACITOR	CFTXA103J50
	C403, 404	AUDIO FILM CAPACITOR	CFTXA472J50
	C405, 406		CFTXA272J50
	C407, 408	AUDIO FILM CAPACITOR	CFTXA122J50
	C413, 414	AUDIO FILM CAPACITOR	CFTXA103J50
	C415, 416	ELECTR. CAPACITOR(100/25)	PCH1076
	C437, 438		CFTXA102J50
	C443, 444	AUDIO FILM CAPACITOR	CFTXA472J50
	C447, 448	ELECTR. CAPACITOR(220/25)	PCH1077
	C451, 452	AUDIO FILM CAPACITOR	CFTXA274J50
	C453, 454	ELECTR. CAPACITOR	CEYA330M25
	C455, 456	AUDIO FILM CAPACITOR	CFTXA103J50
	C457, 458		CFTXA562J50
	C459, 460	AUDIO FILM CAPACITOR	CFTXA472J50
	C461, 462	AUDIO FILM CAPACITOR	CFTXA222J50
	C463	ELECTR. CAPACITOR	CEAS010M50
	C464	ELECTR. CAPACITOR	CEAS100M50
	C467, 468	PL. STYRENE CAPACITOR	CQSA561J50
	C471	ELECTR. CAPACITOR	CEAS100M50
	C472-476	CERAMIC CAPACITOR	CKPUYY103N16
	C555	ELECTR. CAPACITOR(3300μF)	RCH1048
	C556	ELECTR. CAPACITOR(3300μF)	RCH1049
	C557, 558	AUDIO FILM CAPACITOR	CFTXA563J50
	C561, 562	ELECTR. CAPACITOR	CEYA100M50
	C563, 564	AUDIO FILM CAPACITOR	CFTXA563J50

Mark	No.	Description	Part No.
	C565, 566	ELECTR. CAPACITOR (100 μF/25)	PCH1084
	C571, 572	ELECTR. CAPACITOR	CEYA010M50
	C573, 574	ELECTR. CAPACITOR	CEYA330M25
	C581	ELECTR. CAPACITOR	CEAS220M50
	C855	ELECTR. CAPACITOR	CEAS101M10

RESISTORS

Mark	No.	Description	Part No.
	R101, 102	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R103-108	CARBONFILM RESISTOR	RD1/6PM□□□J
	R109-122	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R150-152	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R153-170	CARBONFILM RESISTOR	RD1/6PM□□□J
	R201-204	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R205-208	CARBONFILM RESISTOR	RD1/6PM□□□J
	R211	CARBONFILM RESISTOR	RD1/6PM□□□J
	R251-255	CARBONFILM RESISTOR	RD1/6PM□□□J
	R281-284	CARBONFILM RESISTOR	RD1/6PM□□□J
	R286-296	CARBONFILM RESISTOR	RD1/6PM□□□J
	R301-304	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R305-312	CARBONFILM RESISTOR	RD1/6PM□□□J
	R313, 314	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R331-342	CARBONFILM RESISTOR	RD1/6PM□□□J
	R350	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R351, 352	CARBONFILM RESISTOR	RD1/6PM□□□J
	R353-356	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R357-376	CARBONFILM RESISTOR	RD1/6PM□□□J
	R381-383	CARBONFILM RESISTOR	RD1/6PM□□□J
	R385, 386	CARBONFILM RESISTOR	RD1/6PM□□□J
	R401-408	CARBONFILM RESISTOR	RD1/6PM□□□J
	R409, 410(100k)		RCN□□□□
	R411, 412	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R413-416	CARBONFILM RESISTOR	RD1/6PM□□□J
	R417, 418	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R419-428	CARBONFILM RESISTOR	RD1/6PM□□□J
	R431, 432	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R433, 434	CARBONFILM RESISTOR	RD1/6PM□□□J
	R437-452	CARBONFILM RESISTOR	RD1/6PM□□□J
	R453, 454	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R455-464	CARBONFILM RESISTOR	RD1/6PM□□□J
	R465, 466	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R467, 468	CARBONFILM RESISTOR	RD1/6PM□□□J
	R471	CARBONFILM RESISTOR	RD1/6PM□□□J
	R561-564	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R571, 572	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R573, 574	CARBONFILM RESISTOR	RD1/6PM□□□J
	R581, 582	CARBONFILM RESISTOR	RD1/6PM□□□J
	R851	CARBONFILM RESISTOR	RD1/6PM□□□J
	VR101, 102	VR(4.7k)	RCP1053
	VR151, 152	VARIABLE RESISTOR(5k)	RCP1088
	VR281, 282	VR(22k)	RCP1046
	VR331, 332	VR(10k)	RCP1045
	VR333	VR(47k)	RCP1047
	VR401, 402	VARIABLE RESISTOR(20k)	RCP1017
	VR971	VARIABLE RESISTOR(20k)	RCV1019

OTHERS

Mark	No.	Description	Part No.
		SCREW	IBZ30P100FCC
	CN20		TXC-P14P-A1
	CN21		TXC-P12P-A1
	JA201	JACK	RKB1020
	JA301	JACK	RKB1020

6. ADJUSTMENTS

6.1 MECHANISM RELATED ADJUSTMENT

1. Tape running and azimuth adjustment

No.	Mode	Adjustment Location	Specifications
1	–	–	*Insert half mirror in side A* (set screws at front).
2	PLAY	Height adjust ment unit (Refer to Fig. 1)	Playback the above tape and adjust so that there is no curling of the tape in the guide section of the head. (Refer to Fig. 2.)
3	PLAY	Azimuth adjustment screw(Refer to Fig. 1.)	Playback test tape STD–331E and adjust so that the 10 kHz output level is maximum and also so that there is no phase difference between L–ch and R–ch.
4	Check Item 2 above again and adjust again if it dnes not satisfy the specifications. (Be sure to adjust Item 3 when Item 2 is adjusted.)		

2. Tape Speed Adjustment

Mode	Adjustment Location	Specifications
PLAY	Capstan motor adjustment hole (Refer to Fig. 3.)	Adjust so that the playback frequency is 3015 ± 5 Hz at the beginning of winding of test tape STD–301.
PLAY	–	Playback test tape STD–301 again and confirm that the above specifications are satisfied.

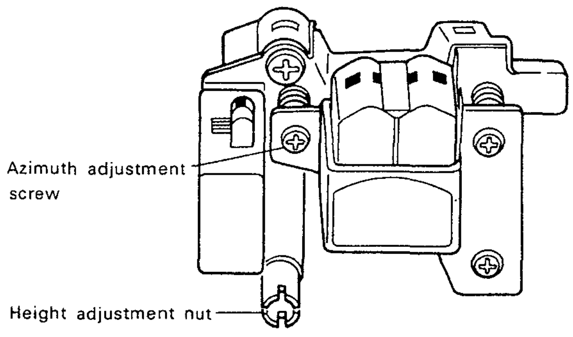

Azimuth adjustment screw
Height adjustment nut

Fig. 1

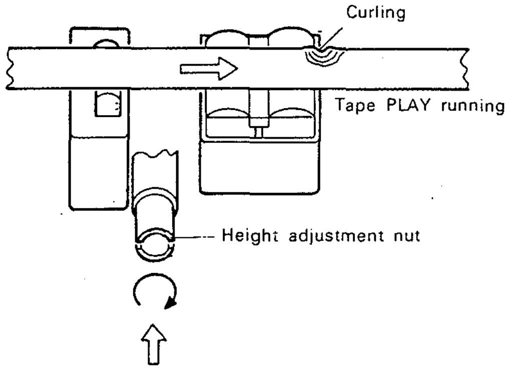

Curling
Tape PLAY running
Height adjustment nut

Fig. 2

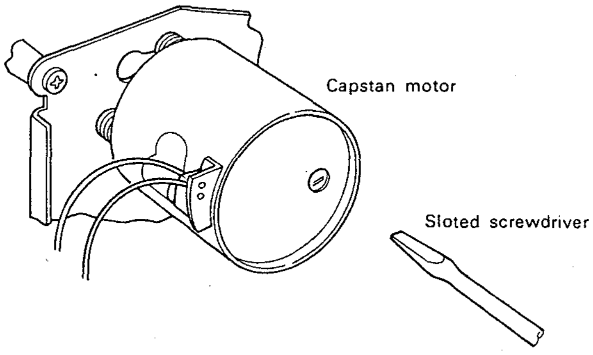

Capstan motor
Sloted screwdriver

Fig. 3

6.2 ELECTRICAL ADJUSTMENTS

Adjustment Conditions

1. The mechanical adjustments must be completed first.
2. The head must be cleaned and demagnetized.
3. Turn power on allow the deck to warm up for at least a few minutes before commencing any electrical adjustments.
4. The reference signal is 0 dBV=1 Vrms.
5. Connect a 50 kΩ (or between 47k to 52 kΩ) load resistance to the OUTPUT terminals.
6. Unless otherwise specified, the switches listed below are left in the positions indicated.

DOLBY NR : OFF
TAPE SELECTOR : NORM

Test Tapes

STD-331E : Playback adjustments (See Fig. 6-1)
STD-631 : NORMAL blank tape
STD-621 : CrO2 blank tape
STD-610 : METAL blank tape

* As the reference recording level is 250 nwb/m for STD-331E, the recording level will be higher by 4 dB for STD-331B (160 nwb/m). When adjusting, pay carefull attention to the type of tape used.

List of Adjustments

Playback sections

1. Head azimuth adjustment.
2. Playback level adjustment.
3. DC balance adjustment.

Recording sections

1. Bias oscillator adjustment.
2. Bias trap adjustment.
3. Recording bias adjustment.
4. Recording level adjustment.
5. Level meter check.
6. AUTO BLE adjustment.

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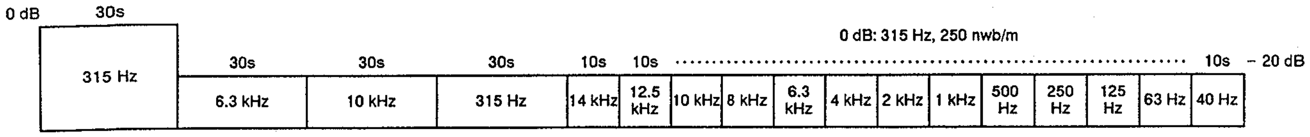

0 dB
30s
315 Hz
0 dB: 315 Hz, 250 nwb/m
30s
30s
30s
10s
10s
10s
– 20 dB
6.3 kHz
10 kHz
315 Hz
14 kHz
12.5 kHz
10 kHz
8 kHz
6.3 kHz
4 kHz
2 kHz
1 kHz
500 Hz
250 Hz
125 Hz
63 Hz
40 Hz

Fig. 6-1 Constants of the test tape STD-331E

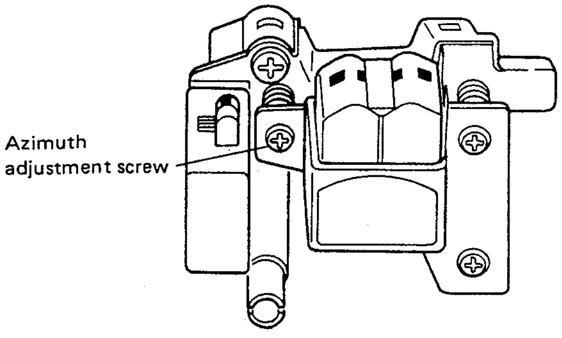
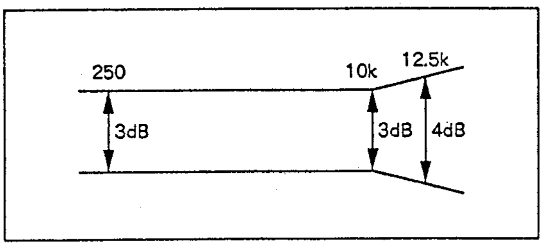

Azimuth adjustment screw

Fig. 6-2 Head azimuth adjustment

PLAY BACK


250
10k
12.5k
3dB
3dB
4dB

RECORDING

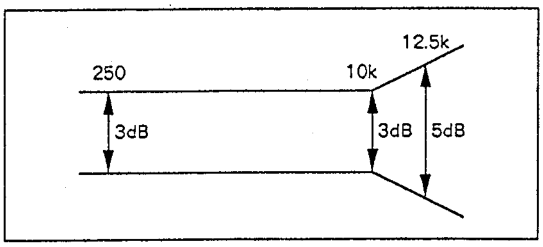

250
10k
12.5k
3dB
3dB
5dB

Fig. 6-3 Frequency response zone

PLAYBACK SECTION

1. Head Azimuth Adjustment

- Turn VR105, 106 to mechanical center positions.

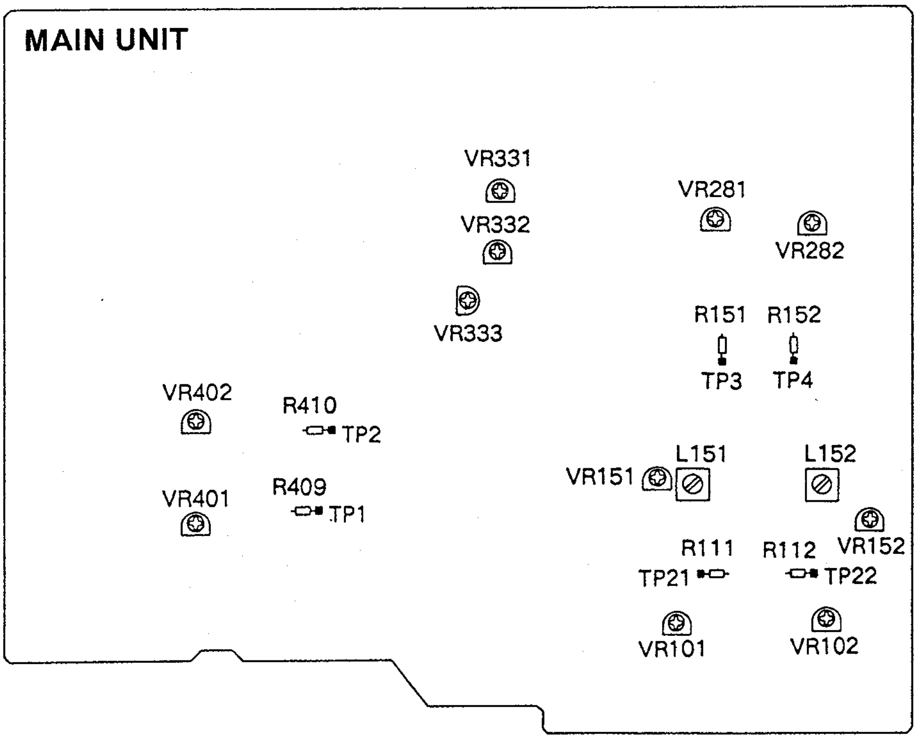
No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	PLAY	Play the 10 kHz/–20 dB section of STD–331E test tape.	Head azimuth adjustment screw. (See Fig. 6–2)	LINE OUT	Maximum playback signal level.	
2.	STOP	Lock the screw with screw lock after completing adjustment.				

2. Playback Level Adjustment

No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1.	PLAY	Play the 315 Hz/0 dB section of the STD–331E test tape.	Deck	VR151 (Lch) VR152 (Rch)	TP. 3 (Lch) TP. 4 (Rch)	–11.0 dBV	This adjustment must be performed accurately for proper Dolby level setting.

3. DC Balance Adjustment

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.			VR101 (Lch) VR102 (Rch)	TP. 21 (Lch) TP. 22 (Rch)	0V ± 0.2V	


MAIN UNIT
VR331
VR332
VR333
VR281
VR282
R151
R152
TP3
TP4
VR402
R410
TP2
VR401
R409
TP1
VR151
L151
L152
VR152
R111
R112
TP21
TP22
VR101
VR102

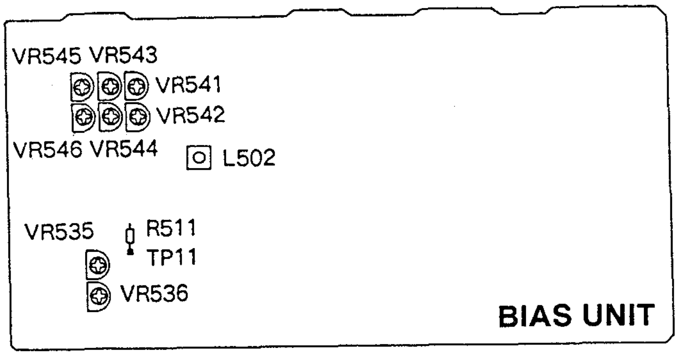


Fig. 6–4 Adjusting points

RECORDING SECTION

1. Bias Oscillator Adjustment

No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1.	REC/ PLAY	Load the STD–610 test tape with no input signal.	Deck	L502	TP. 11	210kHz ± 600 Hz	

2. Bias Trap Adjustment

No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1.	REC/ PLAY	Load the STD–610 test tape with no input signal.	Deck	L151 (Lch) L152 (Rch)	TP. 3 (Lch) TP. 4 (Rch)	Minimum output	

3. Recording Bias Adjustment

- Turn ON the DOLBY HX PRO switch on the front panel, and set the BIAS control to the center position.

No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1.	REC/ PAUSE	Apply a 315 Hz/–26 dBV (–20VU meter reading) signal to the line input terminals and insert STD–631.	—		LINE OUT	—	
2.	REC →PLAY	Record and play back the 315 Hz signal and a 10 kHz signal at –26 dBV input level.	NOR	VR541 (L ch) VR542 (R ch)		Record and play back repeatedly, comparing the 315 Hz and 10 kHz playback levels, and adjust to 0 ±0.5 dB.	
3.		Record the 10 kHz/315 Hz, –26 dBV signal on STD–621 and play back.	CrO2	VR543 (L ch) VR544(R ch)		0 dBV ± 0.5 dB	
4.		Record the 10 kHz/315 Hz, –26 dBV signal on STD–610 and play back.	METAL	VR545 (L ch) VR546 (R ch)		0 dBV ± 0.5 dB	
5.	Check distortion value after adjustment is completed and confirm that there is no underbias.						
6.	Turn OFF the DOLBY HX PRO switch.						
7.	REC →PLAY	Record and play back the 315 Hz signal and a 10kHz signal at –26 dBV input level.	NOR	VR535 (L ch) VR536 (R ch)	LINE OUT	Turn the control fully counterclockwise, and gradually turn to the right to adjust to 0 dB ± 0.5 dB compared when HX–Pro is ON.	Turn control clockwise past the peak to assure proper overbias value.

Adjust in the order of NOR → CrO2 → METAL. After completing all adjustments, note that the adjustment values for CrO2 and METAL will be altered if NOR is re-adjusted, and that for METAL will be altered if CrO2 is re-adjusted.

4. Recording Level Adjustment

- Turn OFF the DOLBY NR switch.

No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1.	REC/ PAUSE	Apply the 315 Hz/–6 dBV signal to the line input, and load STD–631 (NORM).	REC level control volume		TP. 1 (Lch) TP. 2 (Rch)	–11.2 dBV	
2.	REC →PLAY	Record and play back the 315 Hz/–6 dBV signal.	Deck	VR401 (Lch) VR402 (Rch)	TP. 3 (Lch) TP. 4 (Rch)	Repeatedly record, playback and adjust so that the playback signal level becomes –11.2 dBV.	Recording bias adjustment and recording level adjustment with STD–631 must be performed accurately as reference for BLE adjustment.
3.	REC →PLAY	Record the 315 Hz/–6 dBV signal on STD–621 (CrO2), and play it back.	Check			–11.2 dBV ± 1 dB	
4.	REC →PLAY	Record the 315 Hz/–6 dBV signal on STD–610 (METAL), and play it back.	Check			–11.2 dBV ± 1 dB	

5. Level Meter Adjustment

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	REC/ PAUSE	Apply a 315 Hz/–6 dBV (316 mV) signal to the line input terminals.	VR281 (Lch) VR282 (Rch)	TP. 1 (Lch) TP. 2 (Rch)	Always set the enlarged mode when adjusting. Adjust so that the 0 dB segment lights at a level of –11.2 ± 0.5 dBV (–11.2 ± 1.0 dBV in the normal mode).	Adjust by turning clockwise until the lamp lights up.

6. AUTO BLE Adjustment

- BLE Adjustment must be performed after all other adjustments are completed.
- This adjustment should be performed in the test mode.
- Entering the test mode

  Press the MODE (COUNTER), RANGE and MONITOR keys on the front panel simultaneously, with the power ON. The unit enters the test mode and oscillates a 400 Hz signal.

  Thereafter, each time the START/CLEAR key is pressed, the oscillation frequency changes as follows: 3 kHz oscillation → 15 kHz oscillation → Release

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	–	REC LEVEL VR MIN or no signal input.	–	–	–	
2.		Press the three keys MODE (COUNTER), RANGE and MONITOR on the front panel simultaneously.	VR331	Level meter Rch	Adjust so that 0 dB on the level meter lights.	400 Hz adjustment
3.		Press the START/CLEAR key once.	VR332		Adjust so that 0 dB on the level meter lights.	3 kHz adjustment
4.		Press the START/CLEAR key once.	VR333		Adjust so that –3 dB on the level meter lights.	15 kHz adjustment
5.	When the START/CLEAR key is pressed again, the test mode is released.					

6. REGLAGES

6.1 REGLAGES RELATIFS AU MECANISME

1. Réglage d'azimuth et de défilement de bande

N.°	Mode	Emplacement de réglage	Spécifications
1	–	–	Insérer le demi–miroir dans le côté A (régler les vis à l'avant).
2	PLAY	Ecrou de réglage de hauteur (Se reporter à la Fig. 1.)	Reproduire la bande ci–dessus et régler pour qu'il n'y ait pas d'ondulation de la bande dans la section guide de la tête. (Se reporter à la Fig. 2.)
3	PLAY	Vis de réglage d'azimuth (Se reporter à la Fig. 1.)	Reproduire la bande d'essai STD–331E et régler pour que le niveau de sortie de 10 kHz soit maximum et également pour qu'il n'y ait pas de déphasage entre le canal gauche et le canal droit.
4	Vérifier à nouveau l'article 2 ci–dessus et régler s'il ne satisfait pas les spécifications.(Toujours régler l'article 3 lorsque l'article 2 est réglé.)		

2. Réglage de vitesse de bande

Mode	Point de réglage	Caractéristiques
LEC–TURE	Orifice de réglage du moteur de cabestan (Se reporter à la Fig. 3)	Régler afin que la fréquence de lecture soit de 3015 ± 5 Hz au début de l'enroulement de la bande d'essai STD–301.
LEC–TURE	–	Reproduire à nouveau la bande d'essai STD–301 et confirmer que les caractéristiques ci–dessus sont satisfaisantes.

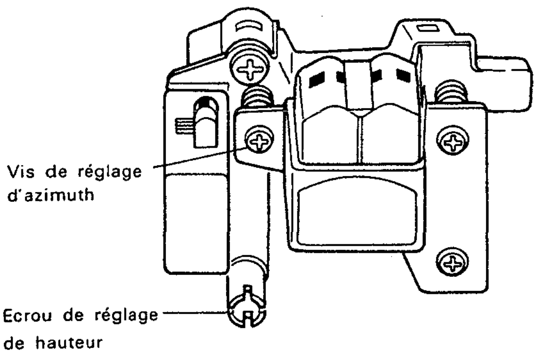

Vis de réglage d'azimuth
Ecrou de réglage de hauteur

Fig. 1

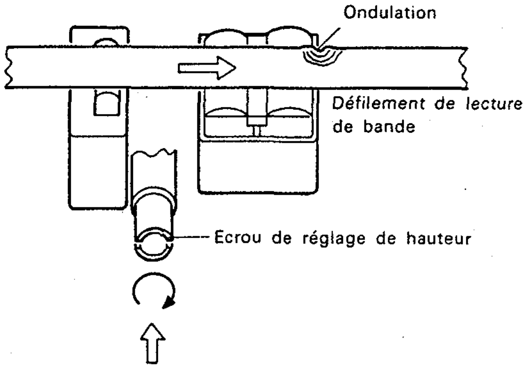

Ondulation
Défilement de lecture de bande
Ecrou de réglage de hauteur

Fig. 2

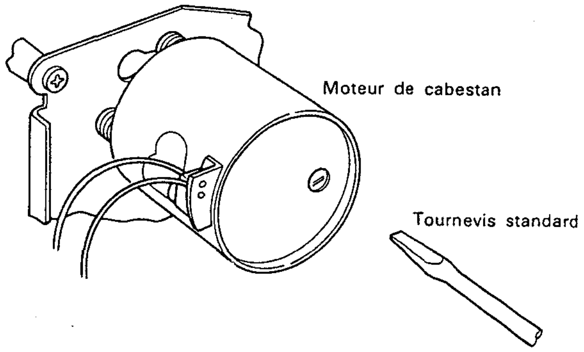

Moteur de cabestan
Tournevis standard

Fig. 3

6.2 REGLAGES ELECTRIQUES

Conditions de réglage

1. Les réglages mécaniques doivent tout d'abord être terminés.
2. Les têtes doivent être nettoyées et démagnétisées.
3. Mettre la platine sous tension et la laisser chauffer pendant au moins quelques minutes avant de commencer les réglages électriques.
4. Le signal de référence est de 0 dBV=1 Vrms.
5. Connecter une résistance de charge de 50 kΩ (tolérance 47k à 52 kΩ) aux bornes de sortie (OUTPUT).
6. Sauf indication contraire, les commutateurs ci-dessous doivent être laissés sur les positions indiquées.
   DOLBY NR : OFF
   Sélecteur de bande (TAPE SELECTOR) : NORM

Bandes d'essai

STD-331E	: Réglages de la lecture (Voir fig. 6-1)
STD-631	: Bande vierge de type normal
STD-621	: Bande vierge de type chrome
STD-610	: Bande vierge de type métal

Liste des réglages

Sections de lecture

1. Réglage de l'azimut de la tête.
2. Réglage du niveau de lecture.
3. Réglage de l'équilibre CC.

Sections d'enregistrement

1. Réglage de l'oscillateur de polarisation.
2. Réglage du circuit réjecteur de polarisation
3. Réglage de la polarisation d'enregistrement.
4. Réglage du niveau d'enregistrement.
5. Réglage de l'indicateur de niveau.
6. Réglage de AUTO BLE

* Le niveau d'enregistrement de référence étant de 250 nwb/m pour le STD-331E, le niveau d'enregistrement sera supérieur de 4 dB pour le STD-331B (160 nw/m). Pour le réglage, tenir compte du type de bande utilisé.

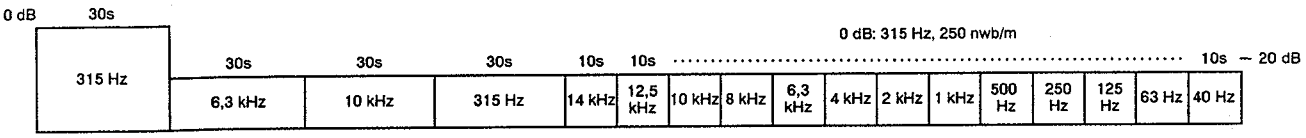

0 dB
30s
315 Hz
0 dB: 315 Hz, 250 nwb/m
30s
30s
30s
10s
10s
10s
– 20 dB
6,3 kHz
10 kHz
315 Hz
14 kHz
12,5 kHz
10 kHz
8 kHz
6,3 kHz
4 kHz
2 kHz
1 kHz
500 Hz
250 Hz
125 Hz
63 Hz
40 Hz

Fig. 6-1 Constantes de la bande d'essai STD-331E

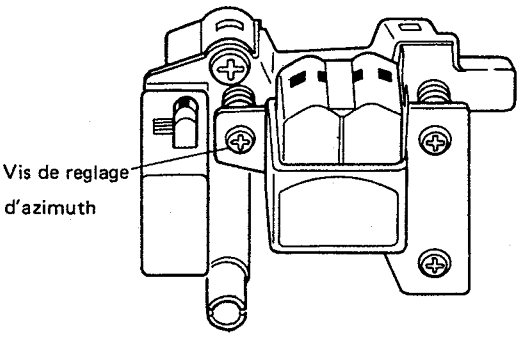

Vis de reglage d'azimuth

Fig. 6-2 Réglage de l'azimut de la tête

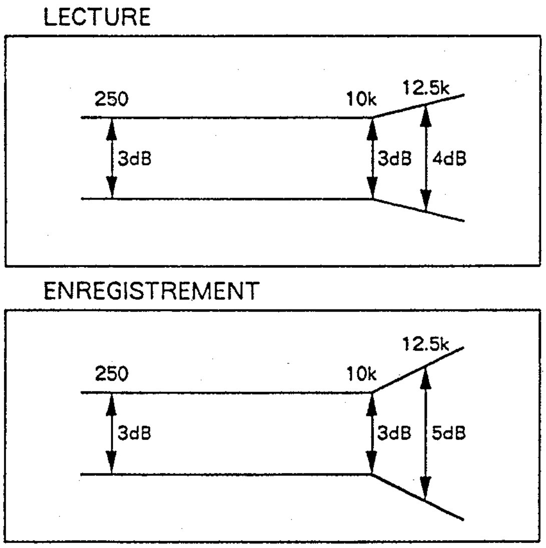


Fig. 6-3 Zone de réponse en fréquence

SECTION DE LECTURE

1. Réglage de l'azimut de la tête

- Tourner VR105, 106 sur leur position centrale mécanique.

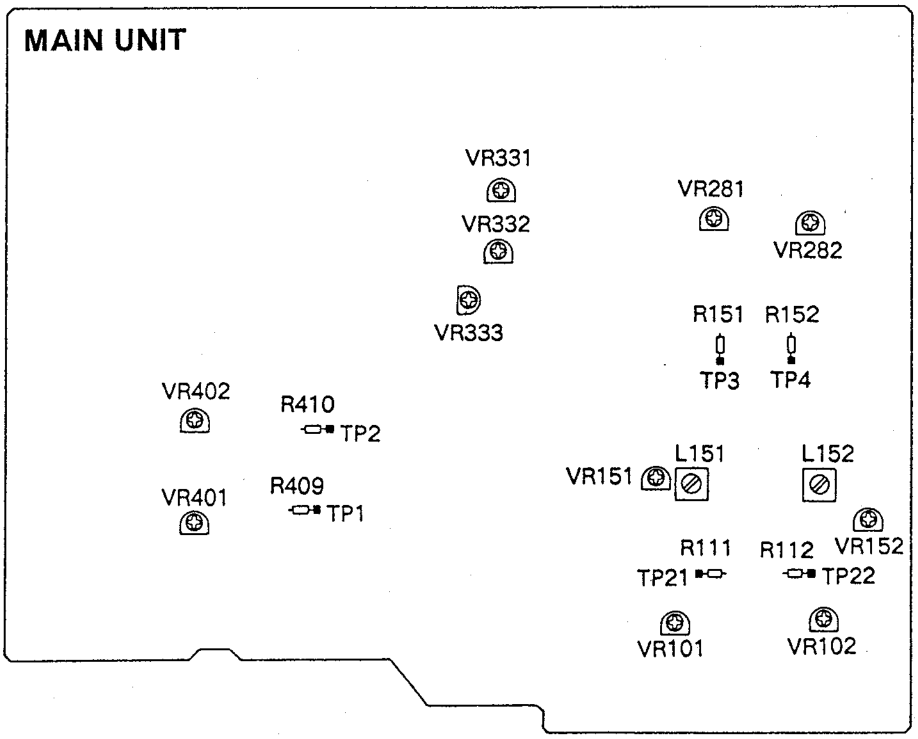
No.	Mode	Signal d'entrée et bande d'essai	Points de réglage	Points de mesure	Valeur de réglage	Remarques
1.	PLAY	Reproduire la section 10 kHz/–20 dB de la bande d'essai STD–331E.	Vis de réglage de l'azimut de la tête. (Voir fig. 6–2)	LINE OUT	Niveau du signal de reproduction maximum.	
2.	STOP	Verrouiller la vis avec le verrouillage de vis après avoir terminé le réglage.				

2. Réglage du niveau de lecture

No.	Mode	Signal d'entrée et bande d'essai	Points de réglage		Points de mesure	Valeur de réglage	Remarques
1.	PLAY	Reproduire la section 315 Hz/0 dB de la bande d'essai STD–331E.	Platine	VR151 (can. G) VR152 (can. D)	TP. 3 (can. G) TP. 4 (can. D)	–11,0 dBV	Ce réglage doit être effectué avec précision pour un réglage adéquat du niveau Dolby.

3. Réglage de l'équilibre CC

No.	Mode	Signal d'entrée et bande d'essai	Points de réglage	Points de mesure	Valeur de réglage	Remarques
1.			VR101 (can. G) VR102 (can. D)	TP. 21 (can. G) TP. 22 (can. D)	0V ± 0,2V	


MAIN UNIT
VR331
VR332
VR333
VR281
VR282
R151
R152
TP3
TP4
VR402
R410
TP2
VR401
R409
TP1
L151
L152
VR151
VR152
R111
R112
TP21
TP22
VR101
VR102

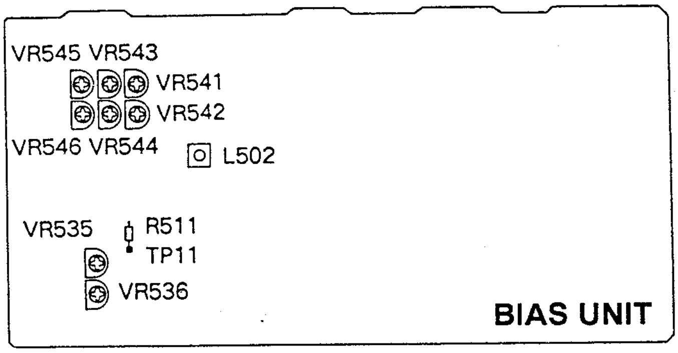


Fig. 6–4 Points réglage

SECTION D'ENREGISTREMENT

1. Réglage de l'oscillateur de polarisation

No.	Mode	Signal d'entrée et bande d'essai	Points de réglage		Points de mesure	Valeur de réglage	Remarques
1.	REC/ PLAY	Charger la bande d'essai STD–610 et n'introduire aucun signal.	Platine	L502	TP. 11	210 kHz ± 600 Hz	

2. Réglage du circuit réjecteur de polarisation

No.	Mode	Signal d'entrée et bande d'essai	Points de réglage		Points de mesure	Valeur de réglage	Remarques
1.	REC/ PLAY	Charger la bande d'essai STD–610 et n'introduire aucun signal.	Platine	L151 (can. G) L152 (can. D)	TP. 3 (can. G) TP. 4 (can. D)	Sortie minimum	

3. Réglage de la polarisation d'enregistrement

- Mettre l'interrupteur DOLBY HX PRO en circuit sur le panneau avant et régler la commande de polarisation BIAS sur la position centrale.

No.	Mode	Signal d'entrée et bande d'essai	Points de réglage		Points de mesure	Valeur de réglage	Remarques
1.	REC/ PAUSE	Appliquer un signal de 315 Hz/–26 dBV (lecture du décibelmètre –20) aux terminaux d'entrée de ligne et insérer STD–631.	–		LINE OUT	–	
2.	REC →PLAY	Enregistrer et reproduire un signal de 315 Hz et un signal de 10 kHz à un niveau d'entrée de –26 dBV.	NOR	VR541 (can.G) VR542 (can.D)		Enregistrer et reproduire continuellement, comparant les niveaux de lecture de 315 Hz et 10 kHz et régler à 0 ± 0,5 dB.	
3.		Enregistrer le signal de 10 kHz/315 Hz/–26 dBV sur STD–621 et reproduire.	CrO2	VR543 (can.G) VR544 (can.D)		0 dBV ± 0,5 dB	
4.		Enregistrer le signal 10 kHz/315 Hz/–26 dBV sur STD–610 et reproduire.	METAL	VR545 (can.G) VR546 (can.D)		0 dBV ± 0,5 dB	
5.	Vérifier la valeur de distorsion après avoir trminé le réglage et confirmer qu'il n'y a pas de sous polarisation.						
6.	Mettre l'interrupteur DOLBY HX PRO hors circuit.						
7.	REC →PLAY	Enregistrer et reproduire un signal de 315 Hz et un signal de 10 kHz à un niveau d'entée de –26 dBV.	NOR	VR535 (can.G) VR536 (can.D)	LINE OUT	Tourner la commande à fond dans le sens contraire des aiguilles d'une montre, Puis la tourner graduellement vers la droite pour ajuster à 0 dB ± 0,5 dB comparé quand HX–Pro est en circuit.	Tournerla commande à droite au–delà de la crête pour assurer la valeur overbias correcte.

Régler dans l'ordre NOR → CrO2 → METAL. Après l'achèvement de tous les réglages, noter que la valeur de CrO2 et METAL sera modifiée si NOR est réajusté, et que celle de METAL le sera si CrO2 est réajusté.

4. Réglage du niveau d'enregistrement

- Mettre l'interrupteur DOLBY NR hors circuit.

No.	Mode	Signal d'entrée et bande d'essai	Points de réglage	Points de mesure	Valeur de réglage	Remarques
1.	REC/ PAUSE	Appliquer le signal 315 Hz/ –6 dBV à l'entrée de ligne line et charger STD–631 (NORM).	Volume de la commande de niveau d'enregistrement.	TP. 1 (can.G) TP. 2 (can. D)	–11.2 dBV	
2.	REC →PLAY	Enregistrer et reproduire le signal 315 Hz/–6 dBV.	Platine VR401 (can. G) VR402 (can. D)	TP. 3 (can. G) TP. 4 (can. D)	Enregistrer, reproduire et régler de manière répétée de sorte que le niveau du signal devienne –11.2 dBV.	L'enregistrement du réglage de polarisation et l'enregistrement du réglage de niveau avec STD–631 doivent être réalisés avec précision comme référence pour le réglage BLE.
3.	REC →PLAY	Enregistrer le signal 315 Hz/ –6 dBV sur STD–621 (CrO2) et le reproduire.	Vérifier		–11.2 dBV ± 1 dB	
4.	REC →PLAY	Enregistrer le signal 315 Hz/ –6 dBV sur STD–610 (METAL) et le reproduire.	Vérifier		–11.2 dBV ± 1 dB	

5. Réglage de l'indicateur de niveau

No.	Mode	Signal d'entrée et bande d'essai	Points de réglage	Points de mesure	Valeur de réglage	Remarques
1.	REC/ PAUSE	Appliquer un signal de 315 Hz/–6 dBV (316 mV) aux bornes d'entée de ligne.	VR281 (can. G) VR282 (can. D)	TP. 1 (can. G) TP. 2 (can. D)	Toujours prévoir un mode supérieur lors du réglage. Faire en sorte que le segment 0 dB s'allume à un niveau de –11,2 ± 0,5 dBV (–11,2 ± 1,0 dBV en mode normal).	Ajuster en tournant dans le sens des aiguilles d'une montre jusqu' à ce que le témoin s'allume.

6. Réglage de AUTO BLE

- Le réglage de BLE doit être effectués que tous les autres réglages ont été complétés.
- Ce réglage doit être effectué dans le mode d'essai
- Introduction du mode d'essai
  Appuyer simultanément sur les touches MODE (COUNTER), RANGE et MONITOR du panneau avant, lorsque l'unité est sous tension. L'unité est alors en mode d'essai et fait osciller un signal de 400 Hz. Dés lors, chaque fois que l'on appuie sur la touche START/CLEAR, la fréquence d'oscillation change comme suit: Oscillation 3 kHz → oscillation 15 kHz → relâchement.

No.	Mode	Signal d'entrée et bande d'essai	Points de réglage	Points de mesure	Valeur de réglage	Remarques
1.	–	REC LEVEL VR MIN (résistance variable du niveau d'enregistrement mini) ou pas d'entrée de signal.	–	–	–	
2.		Appuyer simultanément sur les trois touches MODE (COUNTER), RANGE et MONITOR du panneau avant.	VR331	Décibelmetre (can. D)	Ajuster afin que 0 dB sur le décibelmètre s'allume.	Réglage 400 Hz
3.		Appuyer une fois sur la touche START/CLEAR.	VR332		Ajuster afin que 0 dB sur le décibelmètre s'allume.	Réglage 3 kHz
4.		Appuyer une fois sur la touche START/CLEAR.	VR333		Ajuster afin que –3 dB sur le décibelmètre s'allume.	Réglage 15 kHz
5.	Lorsque la touche START/CLEAR est enfoncée á nouveau, le mode d'essai est relâché.					

6. AJUSTES

6.1 AJUSTES RELACIONADOS AL MECANISMO

1. Ajuste del azimut y movimiento de la cinta

N.	Mode	Punto de ajuste	Especificaciones
1	–	–	Inserte medio espejo en el lado A (fije los tormillos de delante).
2	PLAY	Tuerca de ajuste de altura (Consulte la figura 1.)	Reproduzca la cinta de arriba y ajústela de forma que no esté doblada en la sección guía de la cabeza. (Consulte la figura 2.)
3	PLAY	Tornillo de ajuste de azimut (Consulte la figura 1.)	Reproduzca la cinta de prueba STD–331E y ajústela de forma que el nivel de salida de 10 kHz sea el máximo, y que no exista diferencia de fase entre el canal izquierdo y el canal derecho.
4	Compruebe de nuevo el ítem 2 de arriba y ajuste si no se satisfacen las especificaciones. (Asegúrese de ajustar el ítem 3 después de haber ajustado el ítem 2.)		

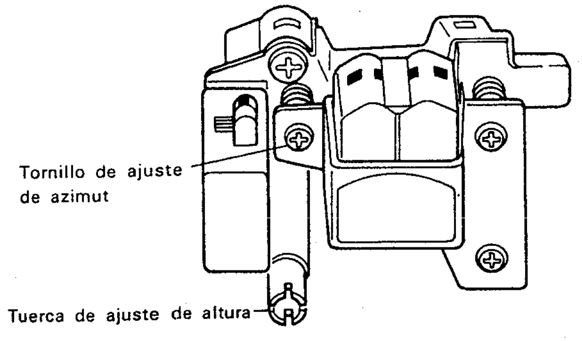

Tornillo de ajuste de azimut
Tuerca de ajuste de altura

Fig. 1

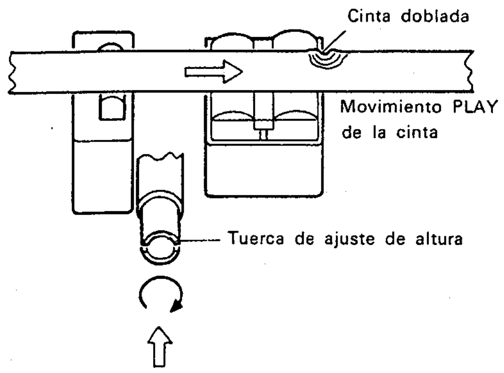

Cinta doblada
Movimiento PLAY de la cinta
Tuerca de ajuste de altura

Fig. 2

2. Ajuste de velocidad de cinta

Modo	Punto de ajuste	Especificaciones
PLAY	Orificio de ajuste del motor de cabrestante (vea la Fig. 3)	Ajuste de modo que la frecuencia de reproducción sea 3015 ± 5 Hz al comienzo del bobinado de la cinta de prueba STD–301.
PLAY	–	Reproduzca nuevamente la cinta de prueba STD–301 y confirme que las especificaciones de arriba sea satisfechas.

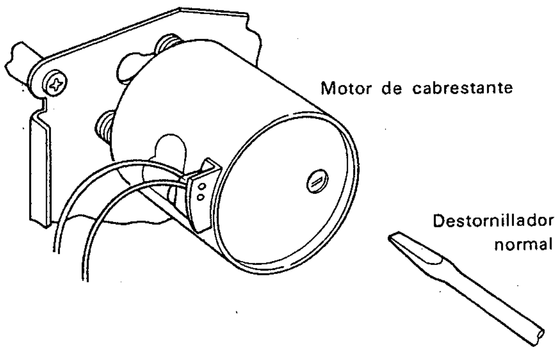

Motor de cabrestante
Destornillador normal

Fig. 3

6.2 AJUSTES ELÉCTRICOS

Condiciones de ajuste

1. Los ajustes mecánicos deben haberse completado primero.
2. La cabeza debe estar limpia y desmagnetizada.
3. Encienda la alimentación para permitir que la platina se caliente durante unos pocos minutos por lo menos antes de realizar cualquier ajuste eléctrico.
4. La señal de referencia es de 0 dBV=1 Vrms.
5. Conecte una resistencia de 50 kΩ (o entre 47k y 52 kΩ) en los terminales OUTPUT.
6. A menos que se especifique lo contrario, los conmutadores indicados más abajo deben dejarse en las posiciones indicadas.
   DOLBY NR : OFF
   TAPE SELECTOR : NORM

Cintas de prueba

STD–331E	: Ajustes de reproducción (Consulte la figura 6–1)
STD–631	: Cinta virgen NORMAL
STD–621	: Cinta virgen de CrO2
STD–610	: Cinta virgen de METAL

Lista de ajustes

Secciones de reproducción

1. Ajuste de azimut de la cabeza
2. Ajuste del nivel de reproducción
3. Ajuste del equilibrio de CC

Secciones de grabación

1. Ajuste del oscillador de polarización
2. Ajuste del eliminador de polarización
3. Ajuste de la polarización de grabación
4. Ajuste del nivel de grabación
5. Ajuste del medidor de nivel
6. Ajuste BLE Automático

* Como el nivel de grabación de referencia es igual a 250 nwb/m para el STD–331E, el nivel de grabación será 4 dB mayor para el STD–331B (160 nwb/m). Al realizar el ajuste, preste suma atención al tipo de cintá que se está utilizando.

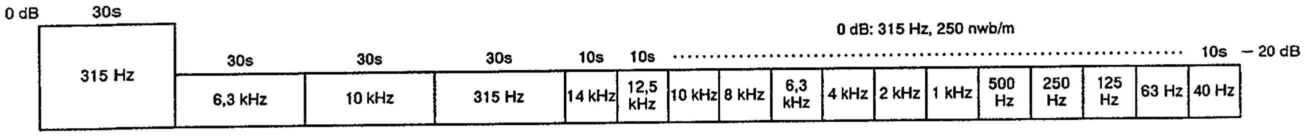

0 dB
30s
315 Hz
0 dB: 315 Hz, 250 nwb/m
30s
6,3 kHz
30s
10 kHz
30s
315 Hz
10s
14 kHz
10s
12,5 kHz
10 kHz
8 kHz
6,3 kHz
4 kHz
2 kHz
1 kHz
500 Hz
250 Hz
125 Hz
63 Hz
10s
40 Hz
– 20 dB

Figura 6–1 Constantes de la cinta de prueba STD–331E

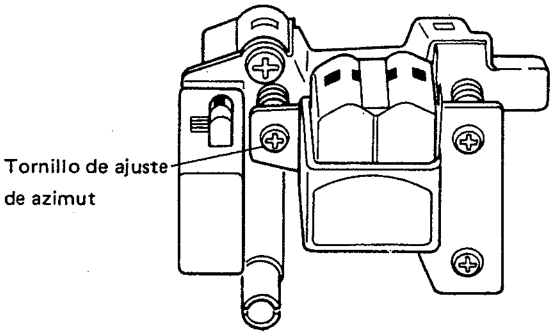
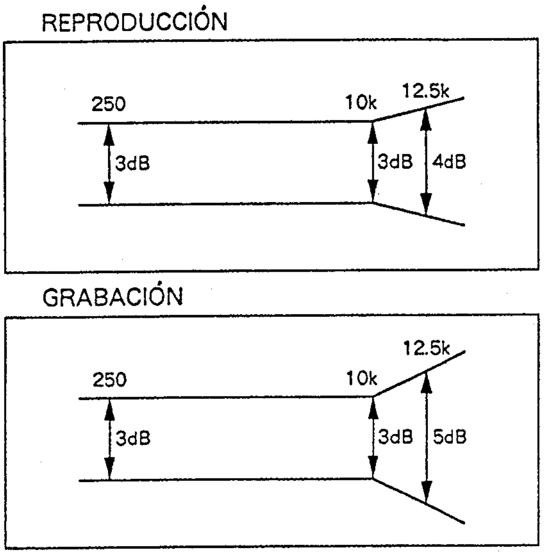

Tornillo de ajuste de azimut

Figura 6–2 Zona de respuesta de frecuencia


REPRODUCCIÓN

GRABACIÓN

Figura 6–3 Ajuste de azimut de la cabeza

SECCIÓN DE REPRODUCCIÓN

1. Ajuste del azimut de la cabeza

- Poner VR105, 106 en las posiciones del centro mecánico.

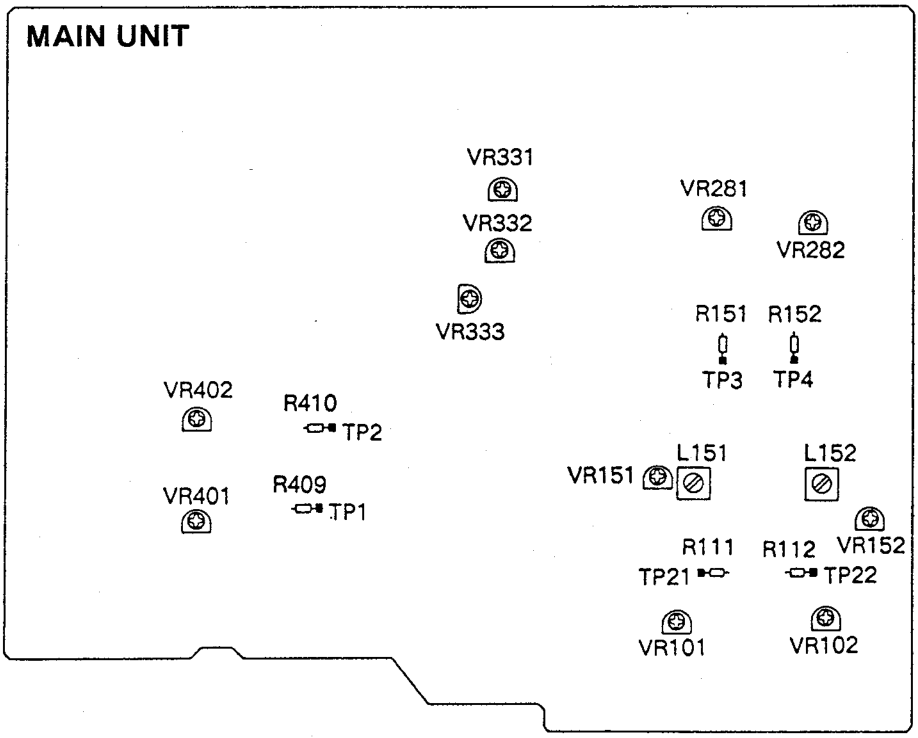
N.º	Modo	Señal de entrada y cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Comentarios
1.	PLAY	Reproduzca la sección de 10 kHz/–20 dB de la cinta de prueba STD–331E.	Tornillo de ajuste del azimut de la cabeza. (Vea la figura 6–2)	LINE OUT	Nivel máximo de la señal de reproducción.	
2.	STOP	Bloquee el tornillo con su cierre una vez finalizado el ajuste.				

2. Ajuste del nivel de reproducción

N.º	Modo	Señal de entrada y cinta de prueba	Punto de ajuste		Punto de medición	Valor de ajuste	Comentarios
1.	PLAY	Produzca la parte de 315 Hz/0 dB de la cinta de prueba STD–331E.	Platina	VR151 (Lch) VR152 (Rch)	TP. 3 (Lch) TP. 4 (Rch)	–11,0 dBV	Este ajuste debe efectuarse con precisión para lograr un buen reglaje del nivel Dolby.

3. Ajuste del equilibrio de CC

N.º	Modo	Señal de entrada y cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Comentarios
1.			VR101 (Lch) VR102 (Rch)	TP. 21 (Lch) TP. 22 (Rch)	0V ± 0,2V	


MAIN UNIT
VR331
VR332
VR333
VR281
VR282
R151
R152
TP3
TP4
VR402
R410
TP2
VR401
R409
TP1
L151
L152
VR151
VR152
R111
R112
TP21
TP22
VR101
VR102

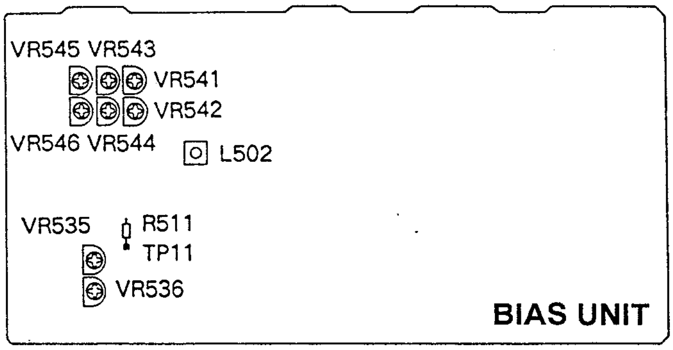


Figura. 6–4 Puntos de ajuste

SECCIÓN DE GRABACIÓN

1. Ajuste del oscilador de polarización

N.º	Modo	Señal de entrada y cinta de prueba	Punto de ajuste		Punto de medición	Valor de ajuste	Comentarios
1.	REC/ PLAY	Introduzca la cinta de prueba STD–610 sin señal de entrada.	Platina	L502	TP. 11	210 kHz ± 600 Hz	

2. Ajuste del eliminador de polarización

N.º	Modo	Señal de entrada y cinta de prueba	Punto de ajuste		Punto de medición	Valor de ajuste	Comentarios
1.	REC/ PLAY	Introduzca la cinta de prueba STD–610 sin señal de entrada.	Platina	L151 (Lch) L152 (Rch)	TP. 3 (Lch) TP. 4 (Rch)	Salida mínima	

3. Ajuste de la polarización de grabación

- Conecte el interruptor DOLBY HX PRO del panel delantero y coloque el control BIAS en la posición central.

N.º	Modo	Señal de entrada y cinta de prueba	Punto de ajuste		Punto de medición	Valor de ajuste	Comentarios
1.	REC/ PAUSE	Aplique una señal de 315 Hz/–26 dBV (dando una lectura de –20 UV en el medidor de volumen) a los terminales de entrada de línea, e inserte el casete STD–631.	–		LINE OUT	–	
2.	REC →PLAY	Grabe y reproduzca la señal de 315 Hz y una señal de 10 kHz a un nivel de entrada de –26 dBV.	NOR	VR541 (L ch) VR542 (R ch)		Grabe y reproduzca repetidamente, comparando los niveles de reproducción 315 Hz y 10 kHz, y ajuste a 0 ± 0,5 dB.	
3.		Grabe la señal de 10 kHz /315 Hz –26 dBV en la cina STD–621, y reprodúzcala.	CrO2	VR543 (L ch) VR544 (R ch)		0 dBV ± 0,5 dB	
4.		Grabe la señal de 10 kHz /315 Hz, –26 dBV en la cinta STD–610, y reprodúzcala.	METAL	VR545 (L ch) VR546 (R ch)		0 dBV ± 0.5 dB	
5.	Verifique el valor de la distorsión una vez finalizado el ajuste y confirm e que no haya subpolarización.						
6.	Desconecte el interruptor DOLBY HX PRO.						
7.	REC →PLAY	Grabe y reproduzca la señal de 315 Hz y una señal de 10 kHz a un nivel de entrada de –26 dBV.	NOR	VR535 (L ch) VR536 (R ch)	LINE OUT	Gire el control completamente hacia la izquierda y luego gírelo gradualmente a la derecha para ajustar a 0 dB ± 0,5 dB cuando HX–PRO está conectado.	Gire el control en sentido horario hasta pasar el pico para asegurar un correcto valor de sobrepolarización.

Ajuste en el orden siguiente: NOR → CrO2 → METAL. Después de completar todos los ajustes, observe que los valores de ajuste para CrO2 y METAL se alterarán si se reajusta NOR, y que para METAL se alterarán si se reajusta CrO2.

4. Ajuste del nivel de grabación

- Desconecte el interruptor DOLBY NR.

N.º	Modo	Señal de entrada y cinta de prueba	Punto de ajuste		Punto de medición	Valor de ajuste	Comentarios
1.	REC/ PAUSE	Aplique la señal de 315 Hz/–6 dBV a la entrada line y cargue STD–631 (NORM).	Control de nivel de grabación.		TP. 1 (Lch) TP. 2 (Rch)	–11.2 dBV	
2.	REC → PLAY	Grabe y reproduzca la señal de 315 Hz/–6 dBV.	Platina	VR401 (Lch) VR402 (Rch)	TP. 3 (Lch) TP. 4 (Rch)	Grabe, reproduzca y ajuste repetidamente para que el nivel de la señal de reproducción sea de –11.2 dBV.	El ajuste de la polarización de grabación y el ajuste del nivel de grabación con STD–631 debe efectuarse con precisión para que sirva como referencial al ajuste BLE.
3.	REC → PLAY	Grabe la señal de 315 Hz/–6 dBV en STD–621 (CrO2) y reprodúzcala.	Verifique			–11.2 dBV ± 1 dB	
4.	REC → PLAY	Grabe la señal de 315 Hz/ –6 dBV en STD–610 (METAL) y reprodúzcala.	Verifique			–11.2 dBV ± 1 dB	

5. Ajuste del medidor de nivel

N.º	Modo	Señal de entrada y cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Comentarios
1.	REC/ PAUSE	Aplique una señal de 315 Hz/–6 dBV (316 mV) a los terminales de entrada de línea.	VR281 (Lch) VR282 (Rch)	TP. 1 (Lch) TP. 2 (Rch)	Seleccione siempre el modo aumentado para el ajuste. Ajuste de modo que el segmento de 0 dB se ilumine a un nivel de –11,2 ± 0,5 dBV (–11,2 ± 1,0 dBV en el modo normal).	Ajuste girando hacia la derecha hasta que la luz se encienda.

6. Ajuste BLE Automático

- El ajuste BLE debe efectuarse después de haber terminado todos los otros ajustes.
- Este ajuste debe efectuarse en el modo de prueba.
- Cómo establecer el modo de prueba.
  Pulse simultáneamente las teclas MODE (COUNTER), RANGE y MONITOR del panel delantero con la alimentación encendida.
  La unidad entrará en el modo de prueba y oscilará una señal de 400 Hz. De aquí en adelante, cada vez que pulse la tecla START/CLEAR, la frecuencia de oscilación cambiará de la forma siguiente: Oscilación de 3 kHz → Oscilación de 15 kHz → Liberación.

N.º	Modo	Señal de entrada y cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Comentarios
1.	–	VR del nivel de grabación mínimo o sin entrada de señal.	–	–	–	
2.		Pulse simultáneamente las tres teclas MODE (COUNTER), RANGE y MONITOR del panel delantero.	VR331	Medidor de nivel Rch	Ajuste de modo que se ilumine 0 dB en el medidor de nivel.	Ajuste de 400 Hz
3.		Pulse la tecla START/CLEAR una vez.	VR332		Ajuste de modo que se ilumine 0 dB en el medidor de nivel.	Ajuste de 3 kHz
4.		Pulse la tecla START/CLEAR una vez.	VR333		Ajuste de modo que se ilumine –3 dB en el medidor de nivel.	Ajuste de 15 kHz
5.	Cuando la tecla START/CLEAR se pulse de nuevo, se soltará el modo de prueba.					

7. SPECIFICATIONS

System	4 track, 2-channel stereo
Heads	
Recording and playback head:	Laser amorphous playback head and Laser amorphous recording head combination × 1
Motor	DC servo capstan motor × 1 DC reel motor × 1 DC auxiliary motor × 1
Wow and Flutter	No more than 0.022% (WRMS) No more than ±0.052% (DIN)
Fast Winding Time	Approximately 75 seconds (C-60 tape)
Frequency Response	
−20 dB recording:	
TYPE IV (Metal) tape	15 to 23,000 Hz ±6 dB
TYPE II (HIGH/CrO_2) tape	15 to 21,000 Hz ±6 dB
TYPE I (Normal) tape	15 to 21,000 Hz ±6 dB
Signal-to-Noise Ratio (Dolby NR off)	More than 63 dB
Noise Reduction Effect	
Dolby B-type NR ON	More than 10 dB (at 5 kHz)
Dolby C-type NR ON	More than 19 dB (at 5 kHz)
Harmonic Distortion	No more than 0.6% (−4 dB)
Input (Sensitivity)	
LINE (INPUT)	95 mV (Input impedance 47 kΩ)
Output (Reference level)	
LINE (OUTPUT)	0.5 V (Output impedance 1.8 kΩ)
Headphone	5.5 mW (Load impedance 8 Ω, PHONES LEVEL control max.)

Subfunctions

- Super AUTO BLE system
- Bias control
- Dolby HX Pro Headroom Extension system (on/off possible)
- Dolby B-type and C-type noise reduction systems
- MPX filter
- Level meter with 2 modes peak hold selection (16 + 1 segments)
- Level meter range selection (wide/expanded)
- Peak level calibration system
- 4-digit electronic tape counter with mode selection
- Auto monitor selection (Tape/Source)
- Display off
- Music search (over ±15 selections)
- Automatic Tape Loose Canceller (ATLC)
- Tape return/Return play
- Auto space recording mute
- Auto tape selector
- Line straight
- Playback/recording timer start function
- CD•DECK SYNCHRO recording
- Headphones jack with level control
- Power eject (Open/Close)
- Repeat playback
- Last memory

Miscellaneous

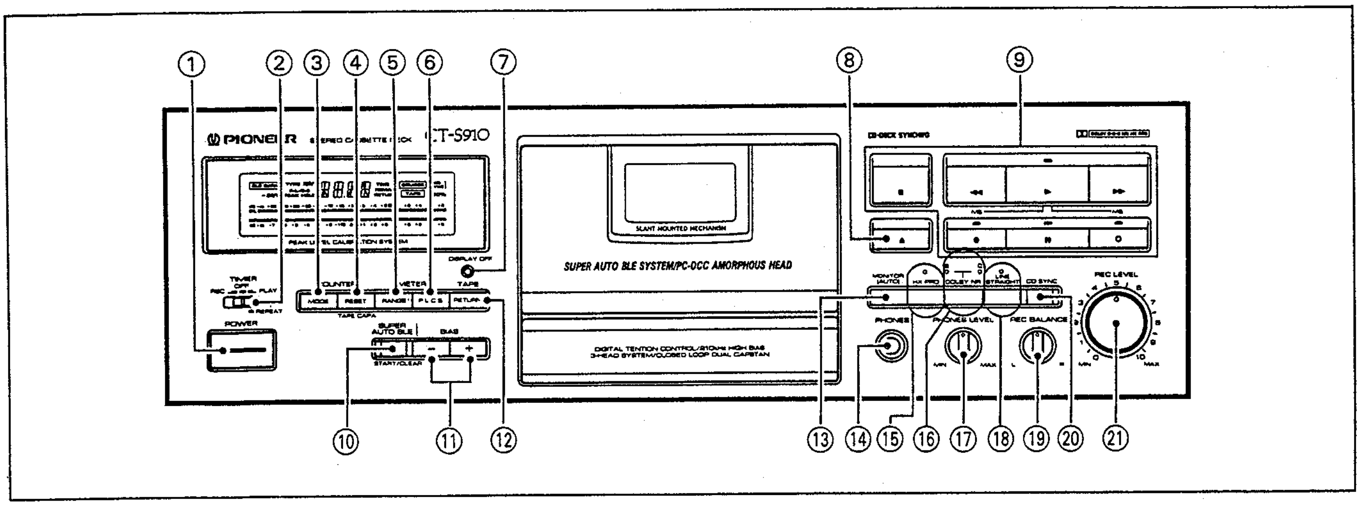
Power Requirements	AC 220−230 Volts~, 50/60 Hz
Power Consumption	25W
Dimensions	420(W) × 146(H) × 375(D) mm
Weight (without package)	8.2 kg

Accessories

Operating instructions	1
Connection cord with pin plugs	2
CD•DECK SYNCHRO control cord	1

NOTE:
Specifications and design subject to possible modifications without notice, due to improvements.

8. PANEL FACILITIES



① **Power switch (POWER)**
After pressing the switch, the WAIT mesage will appear in the counter display and the level meter scale will flash for about four seconds (the time necessary for circuitry to stabilize). During the time the display is flashing, no operating buttons will respond, with the exception of the cassette door open/close button (≜). When closing the cassette door, do so while the power is turned on.

② **Timer mode/repeat play switch (TIMER)**
REC: Set to this position to perform timer recording.
OFF: Set to this position under ordinary conditions, (when not using the timer or repeat functions).
PLAY/REPEAT:
Set to this position to perform timer playback. When the switch is set to this position during normal playback, repeat playback of a single tape can be performed.

③ **Counter mode button (COUNTER MODE)**
Each time this button is pressed, one of the three mode (Normal tape counter/Time counter/Remaining time counter) is set in sequence.

④ **Counter reset/Tape capacity selector button (COUNTER RESET/TAPE CAPA)**
Reset the counter indication to "0000" in the normal tape counter or the time counter mode.
To indicate the correct time value in the remaining time counter mode, this button must be set in accordance with the tape used.

⑤ **Level meter range selector button (METER RANGE)**
Switches between wide range, expanded range, and bias display.

⑥ **Meter PLCS button (METER PLCS)**
Selects the display mode of the peak level.
When press this button so that the PEAK HOLD indicator lights up, the level meter holds the maximum level indications of the signal. To erase the maximum level indications, press this button again. When the PEAK HOLD indicator goes off, the level meter holds peak indications for about 1.2 second.
In addition to the peak level display noted above, the button can also be used with the peak level calibration system to adjust tape recording levels.

⑦ **Display off button (DISPLAY OFF)**
Press this button to turn off the function display.

⑧ **Open/close button (≜)**
Press this button to open or close the cassette door. Whenever inserting or removing a cassette tape, be sure that the power is turned on.
NOTE:
If the cassette door is closed while the unit is turned off, and the power is then turned on, the cassette door may open and close after pressing one of the operation buttons. This occurs when the microprocessor resets the door mechanism to its initial state and does not indicate any malfunctioning of the unit.

⑨ **Operation buttons**
■ : Stop
◀◀/MS : Rewind/music search
▶ : Playback
▶▶/MS : Fast forward/music search
● : Recording
❚❚ : Pause
O : Recording mute

⑩ **SUPER AUTO BLE START/CLEAR button**

⑪ **Recording bias buttons (BIAS −/+)**
When desired, these buttons can be used to manually adjust the recording bias after performing AUTO BLE tuning.
−: Changes tone by reducing recording bias
+: Changes tone by increasing recording bias

⑫ **Tape return button (TAPE RETURN)**
This button is used in the normal tape counter mode to fast forward or rewind the tape to a point near the counter reading "0000."

⑬ **Monitor selector button (MONITOR [AUTO])**
Used to monitor the source sound or just recorded sound during recording.
- When the unit is set to record or playback mode, the TAPE indicator light up and the monitor mode is automatically selected.

⑭ **Headphones jack (PHONES)**

⑮ **DOLBY* HX PRO ON/OFF button/indicator**
The indicator lights when the button is in the ON position.

⑯ DOLBY NR B/C select button/indicator

Use to switch between DOLBY B type NR and DOLBY C type NR.

→OFF→B→C

*

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⑰ Headphones level control (PHONES LEVEL)

⑱ Line straight button/indicator (LINE STRAIGHT)

When this button is pressed so that the indicator lights, sound signals bypass the REC BALANCE controls circuits. This allows enhanced clarity of recording.

⑲ Recording balance control (REC BALANCE)

⑳ CD•DECK SYNCHRO recording button (CD SYNC)

㉑ Recording level control (REC LEVEL)

ATLC (Automatic Tape Loose Canceller)

With the tape slack prevention function, when the cassette door closes, the take-up reel automatically revolves to eliminate any tape slack.

SUPER AUTO BLE

With commercially available cassette tapes, sensitivity and frequency characteristics might differ slightly from one another, even though the same sound adjustment is set for them. To utilize tape characteristics to the maximum possible and realize an ideal recording which reproduces the source exactly, optimum recording level (sensitivity) and equalizer values must be set accordingly for each tape. In many conventional tape decks, standard values are fixed for standard tapes, thus nullifying the subtle differences between individual tapes. Perfect tuning by ear through use of fine adjustment controllers for bias and sensitivity is difficult and requires a lot of effort.

The AUTO BLE on this unit automatically adjusts bias, level and equalizer by using a microprocessor to set the optimum recording characteristics accordingly for each tape.

The recording bias is adjusted with 64 steps at 15 kHz. The recording level is adjusted with 32 steps at 400 Hz. The recording equalizers are adjusted with 16 steps at 3 kHz and with 4 steps at 15 kHz.